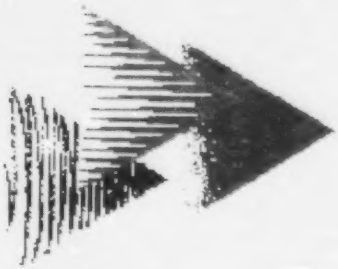

PROMISING PRACTICES IN CAREER AND TECHNOLOGY STUDIES (CTS)

December 2000

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> Alberta Learning, Career and Technology Studies Unit, Learning and Teaching Resources Branch, Devonian Building, 5th Floor East Tower, 11160 Jasper Avenue, Edmonton, Alberta, Canada, T5K 0L2. Telephone: 780–422–4872*; Fax: 780–422–0576.

*To be connected toll free inside Alberta, dial 310–0000.

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101-04358/

Send Us Your Ideas

We would appreciate receiving your recommendations and ideas for subsequent versions of this document. In particular, we would like to know:

- how the programs, partnerships and/or resources profiled in this document have helped you to implement CTS

  _____

  _____

  _____

- about the promising practices undertaken in your school and community to implement CTS, so these might be shared in subsequent versions of this document

  _____

  _____

  _____

- about specific challenges associated with implementing CTS, so these might be addressed in subsequent versions of this document

  _____

  _____

  _____

Additional Comments

_____

_____

_____

_____

_____

Can we contact you for further information regarding the ideas you have shared?

Your Name: _____	Telephone: _____
School/Organization: _____	Fax: _____

Please return completed form to Alberta Learning, Career and Technology Studies Unit, Learning and Teaching Resources Branch, Devonian Building, 5th Floor East Tower, 11160 Jasper Avenue, Edmonton, Alberta, Canada, T5K 0L2. Telephone: 780–422–4872*; fax: 780–422–0576; or email Gary.Bertrand@gov.ab.ca OR Jan.Mills@gov.ab.ca.

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Introduction

Career and Technology Studies (CTS) is an optional career and workplace oriented program available to Alberta's secondary school students. In September 1997, CTS replaced all junior and senior high school practical arts courses—former courses in business education, home economics, industrial arts and vocational education.

As a program of choice, CTS enables junior and senior high school students to:

- investigate career options and make effective career choices
- learn to use technology—tools and processes—effectively and efficiently
- make connections with learnings developed in other subject areas
- prepare for entry into the workplace or further learning.

Senior high school students may complete CTS courses to meet optional course requirements for the Alberta High School Diploma. Students may apply up to 44 credits in CTS to meet graduation requirements.

Strands and Courses

There are 22 strands in CTS. Each strand is composed of a group of 1-credit courses (previously referred to as modules) designed to support positive career and occupational opportunities for students. In general, strands relate to selected industry sectors, including agriculture, manufacturing and construction, and service-producing industries, such as business, health and finance. The 1-credit courses within each strand define what a student is expected to know and be able to do.

Levels of Learning

The 1-credit courses within each CTS strand are grouped across levels—introductory, intermediate and advanced—rather than grades. The levels structure provides junior and senior high school students with multiple entry points into a common curriculum that consists of:

- introductory level courses that build daily living skills and form the basis for further learning. Introductory courses are for students who have no previous experience in the strand
- intermediate level courses that build on the competencies developed at the introductory level. These courses provide a broader perspective and help students recognize the wide range of related career opportunities available within the strand
- advanced level courses that refine expertise and prepare students for entry into the workplace or a related post-secondary program.

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Program Planning

Multiple-credit offerings in CTS are planned at the school/system level, by combining 1-credit courses that best suit the needs of students, the school/school system and the community. The curriculum structure permits schools and teachers to combine 1-credit CTS courses:

- within and across strands
- within and across levels
- with other non-CTS core and optional courses.

Reporting Achievement

Student achievement is reported to students and parents in accordance with school jurisdiction policy. At the junior high school level, student achievement in CTS is not reported to Alberta Learning. At the senior high school level, student achievement in CTS is reported to Alberta Learning on the basis of individual 1-credit courses for inclusion on the Alberta High School Transcript of Achievement and Detailed Profile. The information conveyed through single-credit reporting is useful in communicating to post-secondary institutions and prospective employers the nature of the competencies developed by CTS students.

Key Partnerships

The CTS program makes extensive use of education partnerships, workplace learning and community resources, thus aligning teaching and learning with emerging trends in the trades, technical and service occupations, and changes in technology.

Off-campus learning opportunities such as work experience, job shadowing and mentorship, enhance student connections with business/industry, post-secondary and other community groups.

Implementation Statistics

The CTS program was designed to improve the access, relevance and credibility of existing career and workplace-oriented programs available to secondary students. During the 1999–2000 school year, there were more than 720 000 credit completions reported for CTS courses—a 4.5% increase over two years.

During the 1999–2000 school year:

- approximately 70% of Alberta's senior high school students earned 6 or more credits in CTS courses
- students awarded an Alberta High School Diploma earned an average of 114 credits in total and 18 credits in CTS courses.

Further information regarding credit completions at each level and in each strand is provided in Appendix 1 of this document.

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Program Highlights

Teachers and other members of the education community involved in implementing CTS programs at school and jurisdictional levels have identified numerous program strengths including the:

- range of learning opportunities and flexibility offered by CTS
- collaborative processes and ongoing initiatives taken to maintain CTS courses
- opportunities for CTS students to gain entry requirements and/or advanced standing at post-secondary institutes
- opportunities for CTS students to earn credentials recognized in the workplace
- availability of an increasing number and range of learning resources.

Implementation Challenges

Challenges experienced by those implementing CTS strands and courses include:

- an increasing shortage of suitably qualified CTS teachers, particularly at advanced levels of learning
- effective strategies for tracking and reporting student achievement in single-credit courses
- transitions between junior and senior high school
- delivering CTS courses in combination with non-CTS courses
- how to keep up with ongoing changes in information and communication technology.

Responding to the Challenge

Promising Practices in Career and Technology Studies (CTS) was developed in response to the above challenges related to the implementation of CTS programs. The successful programs and partnerships profiled in this document provide examples of how teachers, schools and school systems are implementing specific CTS strands and courses. It is useful in providing information about the status of a range of implementation initiatives and includes a limited number of examples. There are many other innovative and effective practices taking place across the province that have not been included.

A consent form for sharing CTS implementation initiatives taken in your school and community is provided in Appendix 2.

If you want to share your CTS implementation strategy, Alberta Learning continues to gather examples of such initiatives. Therefore, Learning and Teaching Resources Branch asks that you advise them of initiatives taken in your school and community to implement CTS; for example, successful courses, effective partnerships, recommended practices. These initiatives may be shared in future versions of this document. Forward articles to:

Alberta Learning
Career and Technology Studies Unit
Learning and Teaching Resources Branch
Devonian Building, 5th Floor East Tower
11160 Jasper Avenue
Edmonton, AB T5K 0L2
Canada
Telephone: 780–422–4872
Fax: 780–422–0576

Articles in this Document

Many of the articles that follow were submitted specifically for sharing through this document. However, articles appearing in previously published issues of the *CTS Communication Network Update*, a newsletter for CTS teachers, counsellors and administrators, have also been included.

Articles taken from previous issues of the *CTS Communication Network Update* have a date and number to indicate when they were published. Some of these articles have been revised slightly to include current information. Most of the articles, however, need to be read with the parenthetical date in mind, as the text reflects the currentness of information at that particular time.

For the most current information on an initiative outlined in this document, contact the appropriate individual or organization referenced in the sidebar of the article.

Thank you to those who contributed to the development of this document by sharing their professional practices.

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CTS General

CTS Renovations at Innisfail Junior Senior High School

For more information about these renovations, contact:
Louis Ohly
Principal
Innisfail Junior Senior High School
Telephone: 403–227–3244
Fax: 403–227–2595
OR
Mel Van Stone
Technology Coordinator
Innisfail Junior Senior High School
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Fax: 403–227–2595
Email: mvanstone@chinooksedge.ab.ca

Innisfail Junior Senior High School has just completed an extensive renovation that was the result of two years of intensive planning. The CTS program will benefit from this renovation.

The most noticeable area of advancement is in the Foods strand of CTS. The renovation included enclosing an outdoor courtyard and developing a commercial kitchen and student gathering area. The commercial kitchen, currently managed by a journeyman cook, is used to deliver instruction in commercial cooking.

The second area of benefit is that of information and communication technology. The school now has three computer labs and one technology centre. One of the computer labs has 24 IBM computers for senior high school students, while a second has 23 Macintosh computers for junior high school students. The third lab, called an Integrated Learning Centre, is located between the library and technology centre and has 24 Macintosh computers that can be booked for writing and research assignments. There are removable walls between the Integrated Learning Centre, library and technology centre, thus facilitating the integration of computers with traditional research methods in a variety of content areas.

The technology centre is attached to wood and metal lathe shops, thus enabling students to design projects using CAD. Also connected to the technology centre and used in delivering a range of CTS courses are a CNC lathe, Rolland Signmaker for producing vinyl signs, as well as audio and video studios.

The renovations at Innisfail Junior Senior High School have made extensive use of windows to "open up" the CTS shop areas and new technology centre. This permits students who are passing by to view projects being completed and thus develop interest in CTS. The renovations also enable CTS students to view activities under way in a variety of course areas, thus increasing awareness of other career opportunities.

Essential Skills Research Project
(November 2000)

HRDCs database of Essential Skills Profiles is at http://www.hrdc-drhc.gc.ca/essentialskills.

For more information about this project, contact:
Karen Fetterly
Alberta Learning
School Career Transitions Initiative
Telephone: 780–422–4872
Fax: 780–422–0576
Email: Karen.Fetterly@gov.ab.ca

The Essential Skills Research Project (ESRP) of Human Resources Development Canada (HRDC) is identifying and analyzing how essential skills; e.g., reading text, numeracy, problem solving, are used in different occupations. Essential skills are important to employability and lifelong learning across all domains of an individual's life. Essential skills are becoming a fundamental part of curriculum development, curriculum integration, student evaluation and applied learning experiences.

HRDC has formatted the essential skills information collected into occupational profiles that correlate with the National Occupational Classification (NOC) codes. Over 150 of these profiles are now available to the public through HRDCs electronic database of Essential Skills Profiles. The profiles are searchable by NOC code or by occupations, key words, skills and "most important skills." There is also an advanced search function.

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The ESRP team is also responsible for developing a resource guide featuring authentic workplace materials; e.g., selections from manuals, forms requiring data entry, charts that require interpretation. These workplace materials are being gathered across Canada so that students will be able to use them in their studies and gain a better understanding of what the world of work actually requires of them.

Canadian Association for Co-operative Education Launches New Web Site
(November 2000)

The CAFCE Web site is at http://www.cafce.ca.

The Canadian Association for Co-operative Education (CAFCE) is pleased to announce the launch of its revitalized Web site.

Since 1973, CAFCE has been a resource for educators, students and employers interested in the co-operative education process. More than 425 members from colleges, universities, government and business sectors work with CAFCE to advocate and promote post-secondary co-operative education.

CAFCE's updated Web site follows in this tradition and will evolve as users provide their input and feedback.

Registered Apprenticeship Program Scholarship
(November 2000)

The Registered Apprenticeship Program Scholarship, an initiative of the Alberta Apprenticeship and Industry Training Board in partnership with Alberta Learning, will recognize the academic and trade-related accomplishments of up to 50 senior high school students who are taking part in the Registered Apprenticeship Program (RAP). RAP is an innovative program that allows apprentices to begin their training while still in senior high school, and the scholarship will reward them with $1000 toward the cost of continuing their training.

Further information about this scholarship is available through the Web site of Alberta Learning at http://www.tradesecrets.org.

Skills Canada Alberta
(November 2000)

For more information on SCA events, contact:
Karen Fetterly
Alberta Learning
School Career Transitions Initiative
Telephone: 780–422–4872
Fax: 780–422–0576
Email: Karen.Fetterly@gov.ab.ca

Skills Canada Alberta (SCA) will host its annual Provincial Skills Competition in Edmonton on May 29 and 30, 2001. This event will be the qualifier for the Canadian Skills Competition, to be hosted this year by SCA and held in Edmonton on May 31 to June 3, 2001.

Skills Canada is a national, not-for-profit organization that works with employers, educators, labour groups and government to position trade and technical careers as a first choice career option for Canadian youth. Its mandate is to look at ways to guide students toward the professional opportunities available in the skilled trade and technology fields. Along with private and public sector partners, Skills Canada is helping to secure Canada's future skilled labour needs.

The goals of Skills Canada are to:

- improve the level of awareness of skills and technologies and their impact on Canadian youth
- create and promote tangible opportunities for the private sector to interact with and enhance education for students pursuing technical career tracks
- improve the image and status of skills and technology career paths and the self-esteem and achievement levels of people who pursue them.

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CTS Council
(January 1998)

For more information about the CTS Council, contact:
Irene Sifrer
President, CTS Council
Telephone: 403–777–7540
Fax: 403–777–7549
Email: irene.sifrer @ctscouncil.com

On August 1, 1997 the merged Career and Technology Studies Council, a specialist council of the Alberta Teachers' Association (ATA), came into official existence. The CTS Council was established to replace the former Business Education, Home Economics and Industrial Education Councils.

Mission Statement

Recognizing the diversity of Career and Technology Studies, we represent and support the ongoing professional needs of our members and promote the CTS program.

The merged CTS Council includes four areas of specialization—strand clusters—each with its own vice-president and directors to address strand-specific conference and professional development needs. CTS strands within each of the four areas of specialization include:

Business Education
- Enterprise and Innovation
- Financial Management
- Information Processing
- Legal Studies
- Logistics
- Management and Marketing
- Tourism Studies
- Career Transitions

Home Economics
- Community Health
- Cosmetology Studies
- Fashion Studies
- Foods
- Career Transitions

Industrial Education
- Communication Technology
- Construction Technologies
- Design Studies
- Electro-Technologies
- Fabrication Studies
- Mechanics
- Career Transitions

Resources
- Agriculture
- Energy and Mines
- Forestry
- Wildlife
- Career Transitions

(June 1998)

For more information about professional development opportunities, visit the CTS Council Web site at http://www.ctscouncil.com.

A main focus of the CTS Council has been to provide professional development opportunities for its members. To encourage professional development, the CTS Council has allocated funds for local and/or regional workshops. Any member or group of members may organize and receive funding for a workshop or program that is based on CTS courses or strands. Funding for professional development activities requires that:

- the program is planned by CTS Council members
- the program meets an identified need of CTS teachers
- program organizers attempt cost recovery with registration fees
- information be shared with members in other areas.

CTS Council members can obtain further information about how to apply for professional development funds by contacting their regional Professional Development (PD) Director. Contact information for each of the regional PD Directors is available at the CTS Council Web site.

Articulation with the Apprenticeship Trades
(November 2000)

Information about Alberta apprenticeship training and designated occupations is available through the Web site of Alberta Learning at http://www.tradesecrets.org.

There are a total of eight articulation agreements in place with Alberta's apprenticeship trades. Through these agreements, students who complete required CTS courses and successfully challenge appropriate theory and practical examinations for particular trades may qualify for:

- a portion of the trade's in-school training program, and/or
- on-the-job time credit within the trade.

The following chart summarizes apprenticeship articulation agreements currently in place.

Apprenticeship Trade	*Length of Program*	*Number of Required CTS 1-Credit Courses*	*Credit for Formal Training*	*On-the-Job Time Credit*
Automotive Service Technician	4 yrs	25	1st Period	Nil
		35	1st & 2nd Period	525 hrs
Cabinetmaker	4 yrs	30	Nil	408 hrs
Carpenter	4 yrs	25	1st Period	Nil
Cook	3 yrs	17	1st Period	Nil
		30	1st & 2nd Period	450 hrs
Electrician	4 yrs	25	1st Period	Nil
Electronic Technician	4 yrs	25	1st Period	Nil
Hairstylist	2 yrs	35	1st Period	525 hrs
		55	1st & 2nd Period	700 hrs
Welder	3 yrs	25	1st Period	Nil

For more information on existing articulation agreements, contact:
Apprenticeship and Industry Training Division
Telephone: 780–427–8765
Fax: 780–422–7376
Email: aitinfo@aecd.gov.ab.ca

Details regarding each of the articulation agreements noted above—including correlations to CTS strands and courses—are provided in the *Career & Technology Studies Manual for Administrators, Counsellors and Teachers* (Appendix 5), and at the CTS section of the Alberta Learning Web site—under General CTS Information, click on CTS Program Update.

Student eligibility for advanced standing in the apprenticeship program for any of the trades noted above is dependent upon meeting **all** of the requirements for program delivery and reporting as stated in the corresponding articulation agreement.

Learning About Trades and Technology Education
(June 2000)

For more information, contact:
Michael Alpern
Alberta Learning
Telephone: 780–422–3272
OR
Grant Gibson
Apprenticeship and Industry Training Division
Telephone: 403–297–6645

Learning About Trades and Technology Education (LATTE) is a joint venture of Alberta Learning and Merit Contractors Association. Developed to enhance career counselling for junior and senior high school students, LATTE provides a one-day professional development opportunity for educators in a trade or technology work environment.

Educators who participate in LATTE gain a new perspective about jobs and careers in the trades, and become better equipped to counsel students about employer expectations, applied academics and school-to-work transitions. A series of learning outcomes have been defined for educators who participate in the LATTE project. Staff development certificates verified by Alberta Learning, Merit Contractors Association and the employer are given to program participants.

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OR
Graeme Proudfoot
Merit Contractors Association
Telephone: 403–291–9247

The LATTE project began in the fall of 1999 and will continue this year. To date, approximately 35 educators have taken advantage of the opportunity to spend a professional development day working as a RAP apprentice at an actual work site. Many other educators are still planning their "LATTE Day" in one of Alberta's diverse trade or technology work environments.

Alberta Human Resources and Employment
(December 1999)

The Alberta Human Resources and Employment Web site is at http://www.gov.ab.ca/hre.

Statistics Canada conducts a monthly labour force survey of Canada's population that is 15 years of age and older. This monthly survey is the primary source of information for statistics on employment and unemployment in Canada. Results of this survey are extremely timely, as estimates for a particular month are available within the first two weeks of the following month. Approximately 52 350 households and 97 000 people, representing Canada's 10 provinces, are surveyed each month. In Alberta, some 3775 households and 7000 people are surveyed each month.

Alberta Human Resources and Employment, through the Labour Force Statistics section of its Web site, provides snapshots of the Statistics Canada labour force survey. Additional information regarding labour market conditions in Alberta is also available through Alberta Human Resources and Employment's Web site.

Calgary Board of Education (CBE) and Southern Alberta Institute of Technology (SAIT) Partnership
(June 1999)

For more information, contact:
Derald Fretts
Manager of Marketing and Community Relations
Calgary Board of Education
Telephone: 403–294–8250
Fax: 403–294–8172
Email: ddfretts@cbe.ab.ca

In September 1998, the coordinator of corporate partnerships for the Calgary Board of Education (CBE) and the account manager in charge of business development and international training at the Southern Alberta Institute of Technology (SAIT) discussed the idea of a partnership between the CBE and SAIT. A Steering Committee was formed to develop a strategic plan. The committee identified mutual benefits in five distinct but inter-related areas:

- enhanced promotion of technical programs and vocations
- shared facilities and faculty expertise
- shared curriculum development and use
- shared professional development
- more opportunities for accreditation and cost savings.

In October 1998 and January 1999, partnership proposals were presented and given support by SAIT and the CBE. In March 1999, a partnership between the CBE and SAIT was officially formed.

It took approximately six months for a team of dedicated individuals to establish some concrete goals and create a future for a vision many educators held for years. Ultimately, students will be the true beneficiaries of this partnership as opportunities are created and doors to new career paths are opened.

A recent example of this partnership is the work between SAIT and several Calgary high schools to provide teacher training in air-cooled engine technology. As part of this initiative, SAIT will donate a number of air-cooled engines to the schools in order to improve educational opportunities for students.

Alberta Learning Information Service
(June 1998)

The Alberta Learning Information Service Web site can be visited at http://www.alberta-learning.ab.ca or can be accessed from the Alberta Learning homepage.

The Alberta Learning Information Service (ALIS) Web site provides a wealth of useful information about post-secondary education, and career and training options in Alberta. The ALIS Web site is designed to help learners:

- explore career choices
- find information on education and training programs
- link to learning institutions
- find information about student finance and scholarships
- learn about transfer credits among Alberta institutions
- apply online for admission to participating learning institutions.

Through ALIS, students and teachers can also link to a number of career planning, job search and occupational resources, including:

- the Career Information Hotline
- the Career Shop—an electronic catalogue of materials
- job search information
- self-employment information
- occupational information—both federal, Job Futures, and provincial, OCCINFO.

The ALIS Web site is a joint effort of Alberta Learning, the Alberta Council on Admissions and Transfer, publicly funded colleges and technical institutions, private accredited colleges, Alberta universities, the Council of Alberta University Students, Alberta College, and the Technical Institute Students' Executive Council.

TELUS Learning Connection
(June 1998)

The 2Learn Web site is at http://www.2Learn.ca.

For more information about the TELUS Learning Connection, contact:
Catherine Kullman
Team Leader
Telephone: 780–493–4816
Fax: 780–493–3115
Email: Catherine@2Learn.ca

By now, many teachers are familiar with the TELUS Learning Connection (TLC), a unique, innovative and extremely successful educational alliance where over 250 TLC jurisdictional teacher–leaders are involved in professional development and mentorship with a provincial core team of three seconded teachers. Teacher–leaders, in turn, are funded to provide in-service training to colleagues to support the effective use of information and communication technology within the curriculum.

In-service sessions have focused on the development of dynamic on-line curricular resources by, for and with teachers; the conceptualization, development and implementation of Internet-based, collaborative learning projects; and the integration of the Information and Communication Technology (ICT) outcomes within these resources and projects.

The result?

Using the interactive on-line tools and resources provided at the 2Learn Web site, Alberta teachers have:

- created over 700 subject-specific Internet learning resources supporting ICT outcomes
- built and accessed funding for over 1000 collaborative classroom projects, in which many ICT outcomes are embedded. TLC plans to distribute an additional $625 000 this school year for project development and implementation—visit 2Learn's Project Centre for details

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- contributed and suggested over 5000 other resources for teachers.

The result is a high quality, internationally recognized on-line community that grows daily.

Alberta teachers can participate in the TELUS Learning Connection, either by working with local teacher–leaders or by participating in processes on the 2Learn Web site.

The 2Learn Web site offers CTS teachers:

- a valuable on-line resource
- an opportunity to support one another by sharing resources and teaching ideas through Find a Site, NetSteps on-line curricular resource pages and NetSplore curricular activity pages
- collaborative project development support and funding.

Looking for Links?

The 2Learn Web site already provides hundreds of links to specific strands of CTS. As more CTS teachers make use of and contribute to the site, an even richer collection of links to different strands and courses within the CTS program of studies will be compiled for all to use in lesson planning.

Agriculture

Agribusiness Scholarship

For more information, or to obtain posters and application forms, contact:
Monsanto Canada Inc.
Telephone: 1–800–667–4944

Monsanto Canada Inc. offers the Monsanto Agribusiness Scholarship to graduating senior high school students. This scholarship program is intended to assist graduating students wishing to pursue a college or university education. A total of sixty $1500 scholarships are made available to graduating students across Canada.

Eligible students must be senior high school graduates from a farm family who are commencing a degree or diploma program in agriculture, forestry or business at a Canadian university or college. Selection of applicants is based on academic standards, demonstrated leadership in the community, and university or college acceptance.

Directory of Agriculture Organizations
(November 2000)

To receive a copy of the *2000–2001 Greenbook*, contact:
Gary Bertrand
CTS Program Manager
Telephone: 403–297–5022
Fax: 403–297–3842
Email: Gary.Bertrand@gov. ab.ca

Available to Agriculture teachers on a complimentary basis is the *2000–2001 Greenbook: Alberta Farm & Ranch Directory*, a concise directory of agriculture-related organizations within the province of Alberta.

The directory was produced by the Rural Education and Development Association (REDA) and provides information about the services offered by major commodity organizations, cooperatives, marketing boards and commissions, food service and promotional organizations, and special interest organizations. Also included in the directory are educational organizations, crown corporations and government agencies that serve the agriculture industry.

Teachers will find the directory to be a useful source of contacts for accessing up-to-date information relevant to a variety of courses within the Agriculture strand.

Black Gold Storefront School Offers Summer Program in Equine Studies
(November 1998)

For more information about this summer equine program, contact:
Shirley Jorgensen
Black Gold Storefront School
Leduc, AB, Canada
Telephone: 780–986–9466
Fax: 780–986–9484
Email: sjorgens@blackgold.ab.ca

Ten students in Black Gold Regional Division No. 18 took advantage of the opportunity to enhance their equine expertise, through a summer program offered by Black Gold Storefront School in Leduc. The summer program enabled students to participate in a range of equestrian projects that included tracing championship bloodlines, designing a dream stable, teaching a horse to graduate from the snaffle bit to the curb bit, planning and training for a young horse's first show, and researching hypothyroidism.

The CTS equine studies program began in May 1998, when students met with their course coordinator, Shirley Jorgensen, to develop individualized programs based on courses from the CTS Agriculture strand that they would complete and be evaluated on over the next three months. Each student program addressed business aspects of horse ownership, such as financial planning, inventory and seasonal costs. Students were also required to perform and document a range of horse management tasks and keep a logbook of the time spent riding in 4-H Club or in personal training.

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The highlight of the course was three days spent riding the mountain trails of the Ram River Falls recreation area west of Rocky Mountain House. Through the sun and mist of early July, and under the guidance of a professional outfitter, students learned to apply their riding skills in a unique setting. Shirley considers the independent study approach to have been appropriate for offering this summer school program to a group of students with diverse riding skills, experience and interests—"All students were able to experience the wilderness ride on an equal footing."

Horse lovers rejoice! If you can't take your horse to school, then perhaps your school can come to your horse.

Access to Green Certificate Training Program Expanded
(January 1998)

The Green Certificate Web site can be visited at http://www.agric.gov.ab.ca/ruraldev/green_certificate/.

For more information about Green Certificate, contact:
Doug Taylor
Supervisor, Green Certificate
Alberta Agriculture, Food and Rural Development
Telephone: 780–427–4183
Fax: 780–422–7755
Email: Douglas.Taylor@gov.ab.ca

OR

Robert Hornbrook
Supervisor, Green Certificate
Alberta Agriculture, Food and Rural Development
Telephone: 780–427–4218
Fax: 780–422–7755
Email: Robert.Hornbrook@gov.ab.ca

The Green Certificate Training Program, operated by Alberta Agriculture, Food and Rural Development in partnership with the farming industry, offers an effective way to develop and assess technical competencies defined within some of the Agriculture courses and, at the same time, enables students to gain skill certification recognized by industry.

To support expanded student access to the Green Certificate Training Program, regional representatives have been appointed across the province. The following individuals can be contacted by teachers, students and parents for information and advice regarding the program.

Peace Country
Peggy Johnson
Fairview College
Box 3000
Fairview, AB T0H 1L0
Canada
Telephone: 780–835–6737
Fax: 780–835–6626

North East
Walter Scott
Alberta Agriculture, Food and Rural Development
Box 24, 4701 – 52 Street
Vermilion, AB T9X 1J9
Canada
Telephone: 780–853–8223
Fax: 780–853–4776

North West
Robert Hornbrook
Alberta Agriculture, Food and Rural Development
6204 – 49 Street
Barrhead, AB T7N 1A4
Canada
Telephone: 780–427–4218
Fax: 780–422–7755

South
Carolyn Templeton
Lethbridge Community College
3000 College Drive South
Lethbridge, AB T1K 1L6
Canada
Telephone: 403–329–7212
Fax: 403–317–3504

Central
Cara Anderson
Olds College
4500 – 50 Street
Olds, AB T4H 1R6
Canada
Telephone: 403–507–7928
Fax: 403–556–4711

In June 2000, Alberta Learning approved the inclusion of 21 specific Green Certificate agriculture courses into the Alberta curriculum.

Career Transitions

John G. Diefenbaker High School Offers Training Opportunities in Computer Networking

Refer to the Electro-Technologies section for information on how this article relates to the Career Transitions strand.

CD-ROM for Job Safety Skills Courses in Career Transitions
(June 2000)

To obtain a copy of the CD-ROM from the Job Safety Skills Society, telephone 780–413–6876.

For more information about the Job Safety Skills Society and its resources, contact:
Michael Alpern
Telephone: 780–422–3272
Fax: 780–422–0576
Email: Michael.Alpern@gov.ab.ca

The Job Safety Skills Society has recently developed a CD-ROM that addresses the theory component of the following courses in Career Transitions:

- CTR1210: Personal Safety (Management)
- CTR2210: Workplace Safety (Practices)
- CTR3210: Safety Management Systems.

The CD-ROM facilitates student access to each of these Job Safety Skills courses individually, as a small group or as a class. The CD-ROM permits self-assessment by students and allows teachers to access all student results.

Schools delivering the Job Safety Skills courses can obtain one copy of the CD-ROM, without cost, by contacting the Job Safety Skills Society.

Students at W. P. Wagner High School Develop Life Skills through Courses in Community Health
(June 2000)

Refer to the Community Health section for information on how this article relates to the Career Transitions strand.

School Career Transitions: CTS Teachers Are Key Players in Improving Student Transitions
(December 1999)

For more information about school to career transitions, contact:
Karen Fetterly
Alberta Learning
School Career Transitions Initiative
Telephone: 780–422–4872
Fax: 780–422–0576
Email: Karen.Fetterly@gov.ab.ca

Young people who are just coming out of senior high school today are facing some significant challenges. Many of them are not successfully moving into the workplace or further studies. The School Career Transitions (SCT) Initiative was established by Alberta Learning to address this issue.

The SCT Initiative team is undertaking many initiatives to help students make successful transitions from secondary school into the workplace and post-secondary institutions. While the primary responsibility for making successful career decisions lies with students and their parents, CTS teachers are helping students develop the competencies they need for successful transitions, as well as helping them develop confidence in themselves so they have a solid foundation for success.

Here are some ways that CTS teachers can help students in the career planning process.

- **Set up a career corner**. Include references to occupations or industries that relate to your courses. There are probably many more than students realize. Encourage students to post articles/clippings about career opportunities in these areas.

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- **Help students build a career portfolio**. Assign projects that are "portfolio-friendly."
- **Ask students to assess their own assignments**. What do they think they did well? What could be improved? Such self-assessment reinforces the point that students are responsible for their learning, and it reinforces the value of ongoing quality improvement.
- **Recognize students ability to demonstrate basic competencies—employability skills**. Often students do not realize that their abilities to manage resources, work in teams and use initiative are marketable.
- **Encourage students to reflect on their response to a particular activity**. By being more aware of why they like or dislike a particular activity, or why they excel at or have problems with a particular assignment/project, students can recognize the kinds of work that may provide future job satisfaction; e.g., hands, people, information, or their preferred work environments; e.g., inside, outside.

Lester B. Pearson High School Prepares Students for Careers in Computer Networking
(December 1999)

Refer to the Electro-Technologies section for information on how this article relates to the Career Transitions strand.

James Fowler High School Prepares Students for Future Employment in the Networking and Telecommunications Industries
(December 1999)

Refer to the Electro-Technologies section for information on how this article relates to the Career Transitions strand.

Job Safety Skills Teacher Manuals and Certificates of Competency
(January 1998)

For more information about the Job Safety Skills courses and the Job Safety Skills Society, contact:
Michael Alpern
CTS Program Consultant
Telephone: 780–422–3272
Fax: 780–422–0576
Email: Michael.Alpern@gov.ab.ca

The Job Safety Skills Society, a non-profit organization dedicated to the enhancement of safety education, has published manuals to support the delivery of the job safety skills courses in the CTS Career Transitions strand. Teacher manuals are available for each of the three job safety skills courses:

- CTR1210: Personal Safety (Management)
- CTR2210: Workplace Safety (Practices)
- CTR3210: Safety Management Systems.

Each of the three teacher manuals provides instructional support materials, including lesson plans, fact sheets and assessment instruments. The manuals are authorized by Alberta Learning for use in Alberta schools. Schools offering one or more of the three Job Safety Skills courses may obtain one copy of the appropriate manual(s) by contacting the Job Safety Skills Society.

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(June 1998)

The Job Safety Skills Society can be contacted at:
Box 37073
Lynnwood Post Office
Edmonton, AB T5R 5Y2
Canada
Telephone: 780–413–6876
Fax: 780–413–6877

Students who achieve a mark of 70% or greater in one or more of the three Job Safety Skills courses noted above can obtain a Certificate of Competency from the Job Safety Skills Society. Teachers can facilitate student access to this credential by reporting the names of students who meet the credentialling standard to the Job Safety Skills Society.

Energy and Mines at Lindsay Thurber
(June 1998)

Refer to the Energy and Mines section for information on how this article relates to the Career Transitions strand.

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Communication Technology

Students at New Norway School Learn to Use Communication Tools Appropriate to the Task

For more information about this program, contact:
Stephen Smith
Deputy Superintendent
Battle River Regional Division No. 31
Telephone: 780–672–6131
Fax: 780–672–6137
Email: ssmith@brrd.ab.ca

One of the major objectives of the Communication Technology program at New Norway School is to introduce students to a wide range of communication tools.

Through courses in Communication Technology, students are encouraged to develop a basic understanding of as many communication tools as possible, and learn how to select and integrate tools appropriately to complete a task. Once students are introduced to a range of communication tools in introductory level courses, they are better able to decide upon a focus for their intermediate and advanced courses.

Examples of the many diverse projects undertaken by students at New Norway School through courses in Communication Technology include:

- promotional videos for local public and private organizations
- video records of community sporting events, concerts and other special events
- student presentations related to various core subject areas
- publication of school and personal Web sites
- logo designs for local businesses
- publication of the school yearbook
- photographic essays
- CD-ROM covers, newsletters, video labels, book covers.

Students at New Norway School are able to choose from a number of different 3-credit course clusters that focus on the application of communication technologies. These include:

- COM1060: Audio/Video Production 1, COM1070: Animation 1 and COM2030: Script Writing 1
- COM1030: Photography 1, COM1080: Digital Design 1 and COM2050: Photographic Communication
- COM1030: Photography 1, COM1080: Digital Design 1 and INF1070: Hypermedia Tools.

CTS teachers at New Norway School believe that helping students learn how to choose and apply the most worthy communication tools for the task at hand is extremely important.

CTS Renovations at Innisfail Junior Senior High School

Refer to the CTS General section for information on how this article relates to the Communication Technology strand.

Winston Churchill High School Produces Weekly Television Program
(December 1999)

Winston Churchill High School in Lethbridge produces a weekly television program through its CTS Department. The weekly program is hosted by Winston Churchill High School students and staff in partnership with Cablenet 12CATV and the University of Lethbridge. Under the direction of CTS teacher Rik Jesse, students do most of the filming, taping, editing and production work through courses in the CTS Communication Technology strand. The television series was implemented in 1996, to inform the

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For more information about this program, contact:
Tim Rollingson
Principal
Winston Churchill High School
Telephone: 403–328–4723
Fax: 403–329–4572
Email: wchs@lethsd.ab.ca

public about schools and programs in Lethbridge School District No. 51, and to discuss local and provincial issues related to public education. Television coverage included:

- an emphasis on technology in schools
- an interview with a guest, hosted by the students
- current issues in public education
- features on teachers, their classrooms and innovative practices.

The television series encompasses both curricular and non-curricular areas within the education environment, and it involves students and teachers working together throughout and beyond the regular school day. The project has been successful in communicating information about public education to a vast number of community members at a low cost. According to surveys, the television program is viewed in over 3500 homes each week!

School Principal Tim Rollingson says, "the television series has provided an effective and innovative approach to building positive school–community relations. CTS students at Winston Churchill High School are gaining 'real-world' experience in the field of television production. Their talents and abilities are absolutely amazing."

CTS Courses at Austin O'Brien Let Students Help Themselves and Their Community
(June 1999)

For more information about CTS at Austin O'Brien, contact:
Garry Kroy
Austin O'Brien High School
Telephone: 780–466–3161
Fax: 780–466–6994
Email: kroyg@auobr.ecs.edmonton.ab.ca

The Prime Minister's Awards Web site is at http://www.schoolnet.ca/pma/.

CTS students at Austin O'Brien High School in Edmonton are developing a wide range of workplace skills by turning school and community needs into class projects. The projects integrate problem solving, teamwork and design skills, and require students to apply newly acquired skills in electronics, computer-assisted design, desktop publishing, radio, video, silk-screening, sign making, animation, robotics, welding, construction and the Internet in very practical ways. CTS teacher Garry Kroy says students are progressing to intermediate and advanced skill levels in many career areas.

Some examples of the school and community projects undertaken at Austin O'Brien, where students use technology and learn about related careers, include:

- photography and desktop publishing for the school newspaper
- producing videos for the school and community
- designing and printing T-shirts for sports teams
- welding/repairing broken pieces of school equipment
- producing short radio programs to promote school activities
- growing plants at the hydroponics station
- using computer-assisted design tools to design community building projects.

Prior to commencing each project, students go through a problem-solving process. They talk to the clients in the school and community to find out what is needed, have a brainstorming session and then develop a proposed design. Once everyone approves the design, the students carry out the actual work. After the project is completed, students critique their work and talk

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about how it might be done better. If it is a recurring project, the feedback will be documented so that next year's team can take advantage of past experience.

Garry Kroy was a recent recipient of the Prime Minister's Award for Teaching Excellence for his exemplary teaching practices in CTS. This award recognizes the efforts of outstanding teachers who provide students with the tools to become good citizens, to grow and prosper as individuals, and to contribute to Canada's growth, prosperity and well-being. Congratulations, Garry!

Communication Technology at McNally Enables Students to Explore Careers in Multimedia
(November 1998)

For more information, contact:
Garry Silverman
McNally Composite High School
Telephone: 780–469–0442
Fax: 780–465–5958
Email: gsilverm@epsb.edmonton.ab.ca

The Communication Technology program at McNally Composite High School in Edmonton provides an overview of the skills needed to produce multimedia projects. At the same time, it creates an awareness of growing employment opportunities in the communications field.

Teacher Garry Silverman has designed an introductory, reality-based multimedia program revolving around the following courses from the Communication Technology strand: COM1030: Photography 1, COM1070: Animation 1 and COM1080: Digital Design 1. HyperStudio was chosen as the authoring software, because it incorporates all the multimedia components, can be used for introductory work, as well as sophisticated projects, and is cost-effective to implement in a computer lab setting.

Garry believes that students should be given every opportunity to explore and develop skills that can be directly transferred to the workplace. Students begin by learning basic HyperStudio authoring skills for the production of multimedia presentations, and then study path and frame animation. Photography involves the use of digital cameras and Adobe Photoshop for editing. Computers are equipped with cards, for the capture of digital video, and they use Adobe Premiere for editing. Completed projects integrate text, graphics, sound, digital photographs and video.

A major focus of the program is to motivate students to pursue further study of multimedia. The communications industry has cited a shortage of personnel trained in the integration of sound, graphics and video, at a time when demand for integrated multimedia products is growing at an exponential rate.

HyperStudio Software for Multimedia Courses
(November 1998)

HyperStudio is a student-centred multimedia authoring software package that supports the delivery of a number of courses in the CTS Communication Technology and Information Processing strands. Due to its combination of power and ease of use, HyperStudio can be used from elementary grades through senior high school as a vehicle to study all aspects of multimedia authoring and as a tool to integrate technology across the curriculum.

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The DataNet Communications Web site is at http://www.datanetcomm.com.

For more information, contact:
Dave Walker
DataNet Communications
Telephone: 780–460–7266
Fax: 780–460–5057
Email: dwalker@datanetcomm.com

Alberta Learning and DataNet Communications have signed an Umbrella Agreement for HyperStudio software licences. The purpose of the agreement is to provide all school authorities in Alberta with an equitable and uniform pricing structure for HyperStudio, along with technical support. DataNet Communications also offers a variety of professional development opportunities and companion products, including tutorials, books and other resources that support the use of HyperStudio.

Information regarding HyperStudio licences, related technical support, multilevel training and companion products is provided at the DataNet Communications Web site.

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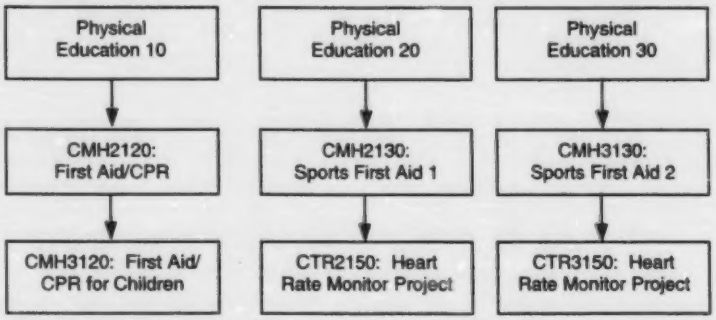
Community Health

Students at W. P. Wagner High School Develop Life Skills through Courses in Community Health
(June 2000)

Students at W. P. Wagner High School in Edmonton are developing important life skills through CTS courses in Community Health. The courses outlined below are being offered as an extension to Physical Education 10–20–30 and provide an opportunity for students to extend their learning in the new physical education program.


Physical Education 10
Physical Education 20
Physical Education 30
CMH2120: First Aid/CPR
CMH2130: Sports First Aid 1
CMH3130: Sports First Aid 2
CMH3120: First Aid/ CPR for Children
CTR2150: Heart Rate Monitor Project
CTR3150: Heart Rate Monitor Project

Department Head of Physical Education, Arthur Eastlake, says the Community Health courses offered in combination with the Physical Education 10 program have enabled students to demonstrate a greater awareness of safety during activity. Courses offered in combination with the Physical Education 20–30 program have enabled students to learn about different aspects of sport injuries, first aid care in an athletic setting and the prevention of athletic injuries. The courses in Community Health are instructed by a certified athletic therapist and fitness leader.

For more information about this life skills program, contact:
Arthur Eastlake
Department Head, Physical Education
W. P. Wagner High School
Telephone: 780–469–1315
Fax: 780–466–6748
Email: AEastlak@epsb.edmonton.ab.ca

The innovative project courses from Career Transitions, being offered to Grade 11 and Grade 12 students, focus attention on the use of heart rate monitors. In addition to learning how to use a heart rate monitor, students learn about the benefits of monitoring target heart rate zones for specific types of aerobic and anaerobic activities.

Arthur says the ability to track and monitor personal training using leading edge technology has motivated students to take their personal fitness seriously. "These new and exciting courses have been well-received by our students, and the time investment is an overwhelming success."

Youth Safety Publication for Community Health
(June 1999)

To obtain a copy of this resource, contact:
Canadian Government Publishing
Telephone: 1–800–635–7943
Web Site: http://publications.pwgsc.gc.ca

Health Canada has developed a resource of potential interest to teachers in Community Health. *For the Safety of Canadian Children and Youth* is a publication that seeks to reduce the number and severity of injuries among young Canadians. It contains over 300 pages of information about the causes of injury-related deaths and hospitalizations among Canadian children and youth. In addition to presenting injury-related data through tables, graphs and statistics, the publication identifies risk factors and recommends preventative strategies.

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Community Health teachers can obtain a copy of this resource from the Government of Canada by quoting catalogue number H39–412–1997E and ISBN 0–660–17066–3. The price of the publication is $29.95.

Students at Jasper Place High School Learn About Themselves and Others
(January 1998)

For more information about this course, contact:
Eileen Hause Spillett
Jasper Place High School
Telephone: 780–408–9000
Fax: 780–486–1984

A CTS course offered at Jasper Place High School in Edmonton promotes personal growth experiences for students as they learn about themselves, children and possible career paths for the future. The course, called Community Health: Child Development, combines 1-credit courses in Community Health to enable students in Grade 11 and Grade 12 to learn about children through practical experiences in child care. Incorporated into the CTS course are credentialling opportunities for students in Day Care Level 1 Orientation, Alberta Family and Social Services; and Child Care First Aid, The Canadian Red Cross Society/St. John Ambulance.

The main purpose of the course is to help students prepare for entry into a variety of child-centred career fields; e.g., health care, education, social services, recreation, arts. As students become involved in the course, teacher Eileen Hause Spillett notices they refine their problem-solving skills, learn to use more positives, become more creative and make efforts to build stronger relationships with each child in their care.

Students have responded to the course with comments like: "I liked the practical experiences." "Learning about first aid was great." "Kids are more complex than we thought." "The children love us." "We are role models." As one particular student stated:

> "If you love kids and want to learn more about them and yourself, this course is for you."

The certificates granted to students through their achievements in this CTS course look great on their résumés.

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Construction Technologies

Two Hills High School Offers a Range of CTS Courses in Industrial Education

Refer to the Mechanics section for information on how this article relates to the Construction Technologies strand.

CTS Renovations at Innisfail Junior Senior High School

Refer to the CTS General section for information on how this article relates to the Construction Technologies strand.

CD-ROM Promotes Careers in Construction Trades and Apprenticeship
(November 2000)

A CD-ROM called *Trade Up! Careers in Construction* was recently developed to help youth discover, explore and more fully understand careers and career paths in four sectors of the construction industry—commercial, industrial, residential and road building.

The focus of *Trade Up! Careers in Construction* is Alberta's vibrant construction industry. The CD-ROM shows students that numerous and varied opportunities are available in the construction industry and encourages them to consider if their individual skills, aptitudes and interests might fit with a career in this area.

The CD-ROM and accompanying teacher guide are designed as resources for those who assist young people with career choices and planning. A poster, videocassette and Web site have also been developed. CTS teachers can use the *Trade Up! Careers in Construction* materials to support the career exploration components of the CTS Fabrication Studies and Construction Technologies strands. Student activities in the teacher guide can also be used to help students plan their careers and build portfolios in the CTS Career Transitions strand.

Trade Up! Careers in Construction was developed under the auspices of the Construction Owners Association of Alberta and funded by a consortium of Alberta construction owners, contractors, labour unions, employer associations, and provincial and federal government departments. Copies of the CD-ROM, teacher guide and poster have been distributed to every junior and senior high school in the province. Additional copies of the CD-ROM may be ordered through the *Trade Up! Careers in Construction* Web site.

The *Trade Up! Careers in Construction* Web site is http://www.careersconstruction.com.

For more information about the *Trade Up!* materials, contact:
Karen Fetterly
Alberta Learning
School Career Transitions Initiative
Telephone: 780–422–4872
Fax: 780–422–0576
Email: Karen.Fetterly@gov.ab.ca

Merit Contractors Association Award
(November 2000)

Merit Contractors Association, a nonprofit association of about 500 non-union construction companies, offers an annual award to each senior high school for CTS students enrolled in construction-related courses. The purpose of the award program is to recognize individual achievement, promote construction as a career, and encourage cooperation between education and industry. The award consists of a certificate of achievement and a cash award of $150. This award applies to CTS students for the current 2000–2001 school year.

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If you wish to participate in this award program or require more information, contact:
Frank Duchscherer
Merit Contractors Association
10951 – 120 Street
Edmonton, AB T5H 3R2
Canada
Telephone: 780–455–5999
Fax: 780–455–2109
Email: meritedm@merit.ca.com

To qualify for the award, a student must:

- be in Grade 12 and achieve the top standing in a construction-related CTS course
- demonstrate a high level of interest in the course
- demonstrate leadership qualities in the classroom
- demonstrate a cooperative attitude with fellow students and teachers.

The CTS Coordinator/Department Head, in consultation with other CTS teachers, will review candidates on the basis of the identified criteria and make a selection. The presentation will be made by the CTS Coordinator/Department Head (or delegate) at the school's annual awards ceremony. In order for the award to be available for the ceremony, the school must notify Merit Contractors Association by letter, fax or telephone of the winner's name and the presentation date.

Merit Contractors Association and the Alberta Construction Safety Association Help Students Prepare for Careers in the Construction Industry
(June 2000)

For more information about the workshops, contact:
Graeme Proudfoot
Merit Contractors Association
Telephone: 403–291–9247
Fax: 403–291–4028

Merit Contractors Association and the Alberta Construction Safety Association (ACSA) will again be conducting a series of construction-related workshops for CTS, Registered Apprenticeship Program (RAP) and work experience students in Calgary and Edmonton. The workshops are designed to assist students in acquiring a better understanding of the construction environment, and are based upon a program originally developed for full-time workers in a construction environment.

A total of four workshops, each up to 12 hours in length, will be offered through evenings and weekends. Each workshop will deliver a series of modules on topics that include construction trades, role of construction apprentices, employability skills, and occupational health and safety. Written tests will be used to determine part of the student's final mark for the workshop.

Articulation with the Apprenticeship Trades
(November 2000)

Refer to the CTS General section for information on how this article relates to the Construction Technologies strand.

Bev Facey Community High School Makes Innovative Use of the Internet in Construction Technologies
(December 1999)

The Construction Technologies program at Bev Facey Community High School in Sherwood Park has always maintained close ties with the surrounding community. Over the years, students taking intermediate and advanced level courses have completed a number of community projects, including notice boards, floating docks and a variety of storage buildings. One of the more significant projects was an oak mural, constructed by senior students working with a local artist, for Festival Place. Bev Facey students were even hired as contractors to build bunk beds for athletes who competed in the 1988 Olympic Games!

In a recent initiative to communicate program offerings and services to a broader audience, CTS teacher Steve Papp launched a Web site for his Construction Technologies program. The Bev Facey Construction Technology Web site has pages of interest to both students in the program and members of the community.

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The Bev Facey Construction Technology Web site is at http://members.home.net/sepapp/index.htm.

For more information about the Bev Facey Construction Technologies program, contact:
Steve Papp
Bev Facey Community High School
Telephone: 780–467–0044
Fax: 780–467–3467
Email: Steve.Papp@ei.educ.ab.ca

Students are attracted to the photos Web site link that provides current images of students at work on various projects. Prospective students can click on the Program Information link for an outline of what they can expect to learn and do in Construction Technologies, and how the courses may lead to advanced standing in selected apprenticeship programs. Students currently enrolled in Construction Technologies courses are directed to an Internet Assignment link where a variety of exercises relevant to their courses are posted.

By clicking on the community work Web site link, community members can browse through an overview of the many construction projects completed and community services provided by students at Bev Facey. There is also an Items for Sale link, which provides an email contact for orders or inquiries.

Steve says email inquiries about projects and services described on the Web site have been received from as far away as the southern United States. "One distant customer ordered plans for our teddy bear book ends and promptly asked the local prison population to make book ends for her Kindergarten class. A prospective customer from California inquired about the costs of shipping the playhouse pictured on our Web site." Such is the power of the Internet!

Students at St. Rose of Lima Junior High School Gain Practical Experience in Construction Processes
(December 1999)

For more information about this project, contact:
Terry Haggarty
St. Rose of Lima Junior High School
Telephone: 403–285–3800
Fax: 403–280–5904
Email: terry.haggarty@crcssd1.calgary.ab.ca

IOP students at St. Rose of Lima Junior High School in Calgary are attending extra classes once a week to complete an in-depth project. Under the leadership of CTS teacher Terry Haggarty, students are learning to apply the skills developed in their regular CTS course work in Construction Technologies to build an 8 feet by 8 feet shed. The project is ongoing from semester to semester, with each class taking over construction tasks where the last class left off.

At the present time, the shed has been framed using student-built trusses. It has exterior sheathing and windows, and the interior has been wired for electricity. Drywall has been applied to the interior surfaces, and the floor has been divided into quadrants finished with hardwood, vinyl, carpet and ceramic tile. This semester, the students are applying asphalt shingles and aluminum siding to exterior surfaces of the shed. Following this, students will install a drop ceiling, prime and paint interior walls, and construct cabinets.

Terry says that when the shed is finished, it will be sold to cover the cost of materials. Structural components of the shed have been screwed together, rather than nailed, so that the shed can be readily disassembled and moved through a regular doorway. Local contractors have donated materials to keep construction costs to a minimum.

NAIT Publication Features Building Trades and Wood Programs
(December 1999)

For more information, or to have your name placed on the mailing list for this publication, contact:
Colette Freitas
Northern Alberta Institute of Technology
Telephone: 780–491–3184
Fax: 780–471–8663
Email: colettef@nait.ab.ca

Shop Talk is a new publication to be distributed three times a year by the Northern Alberta Institute of Technology (NAIT). The publication features the building trades and wood programs offered at NAIT, and provides information of interest to employers, educational institutions, government agencies, industry partners, and building and woodworking personnel.

Future issues of *Shop Talk* will provide updates on skills training programs and industry programs and events, as well as providing open house details and how-to columns. NAIT also encourages readers to submit their stories and ideas for future issues of this publication.

Energy Efficiency Publications Available for Construction Technologies/ Energy and Mines
(December 1999)

Refer to the Energy and Mines section for information on how this article relates to the Construction Technologies strand.

Exceptional Work by CTS Student at Foothills Composite High School
(June 1999)

For more information about this project, contact:
Jim Jones
Foothills Composite High School
Telephone: 403–938–6116
Fax: 403–938–7365
Email: burlwood@cadvision.com

A Grade 12 student at Foothills Composite High School in Okotoks has completed a unique and exceptional project, using skills developed through courses in Design Studies and Construction Technologies. The project involved the design and construction of a scaled version of a Track-Hoe, a machine similar to a backhoe but having caterpillar tracks.

CTS teacher Jim Jones was astonished when the student presented 14 pages of scaled plans for the Track-Hoe and explained how the project was to have over 450 parts. It took the student 10 weeks to construct the Track-Hoe from pieces of solid maple and walnut, following plans that had been prepared. The finished project is quite large, weighs about 150 pounds, and actually incorporates 480 parts. The boom of the Track-Hoe is fully operational—it can extend and compress without jamming or coming apart; the cab doors open and the foot pedals work; and the tracks are fully articulated—all 330 parts move together.

The project was recently displayed in an art exhibition where it received one of four scholarships awarded by the University of Lethbridge. Contact also has been made with the Finning Corporation, manufacturer of the Track-Hoe, regarding the potential sale of the project to them.

Jim believes that this outstanding project is truly cross-curricular, involving Design Studies, art and Construction Technologies, and is one that demonstrates problem solving, an ability to visualize and overall craftsmanship that are above the norm. "This student's pursuit of excellence is amazing; it is students like this that have made me realize the importance of celebrating their success with others."

Congratulations to student and teacher on this exceptional accomplishment!

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Recipe for a Successful Construction Technologies Program
(January 1998)

For more information about this project, contact:
Darrell Teske
R. F. Staples High School
Telephone: 780–349–4454
Fax: 780–349–5948

If your high school Construction Technologies program needs a main order of genuine experience with a healthy side order of entrepreneurialism, try the following recipe used at R. F. Staples High School in Westlock.

Determined to provide his students with a unique experience, teacher Darrell Teske investigated the possibilities of having his students act as general contractors, business managers and owners of a residential property. Initial plans for his students to become involved in a renovation project were expanded to provide opportunities for students to build, manage and own a new home.

The project was financed through a loan of $75 000 to the newly formed R. F. Staples Construction Group by Tawatinaw Community Futures Development Corporation, a branch of the federal lending agency Western Diversification. Throughout the project, students were involved in establishing a business plan, securing a loan, seeking subtrades and building their house.

Feedback on the project, from the local community, has been extremely positive.

Video on Careers in the Construction Industry
(November 1998)

For more information, contact:
Frank Duchscherer
Merit Contractors Association
Telephone: 780–455–5999
Fax: 780–455–2109
Email: meritedm@merit.ca.com

OR

Graeme Proudfoot
Merit Contractors Association
Telephone: 403–291–9247
Fax: 403–291–4028
Email: meritcal@merit.ca.com

The Web site for ACCESS: The Education Station is at http://www.accesslearning.com.

Building Careers in Construction is a 30-minute video that focuses attention on lifetime career opportunities for young people in the construction industry. Developed by Merit Contractors Association, this video is intended for use with:

- junior high school students as part of a career counselling program
- senior high school students who are exploring opportunities to make training in the construction trades a part of their senior high school program.

The video features a number of Edmonton and area senior high school students involved in CTS and the Registered Apprenticeship Program (RAP). By watching and listening to the RAP students, journeymen and CTS teachers interviewed throughout the video, students can become aware of the range of job, career and training opportunities available in the construction trades.

A condensed version of the video was sent to all superintendents and senior high school principals in May/June 1998. The complete video is available from ACCESS: The Education Station.

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Construction Safety Training System Prepares Students for the Workplace
(November 1998)

For more information about the Construction Safety Training System (CSTS), contact:
Art Riendeau
Alberta Construction Safety Association
Telephone: 780–453–3311
Fax: 780–455–1120

Merit Contractors Association and the Alberta Construction Safety Association are promoting safety in the construction workplace through their Construction Safety Training System (CSTS) program. The program provides safety training through an interactive CD-ROM and provides an industry-recognized safety certificate for learners who successfully complete the training program.

The CSTS program enables students to develop an understanding of basic construction safety principles and to meet the safety standards set by industry for employment. The program includes 12 modules delivered through a self-paced CD-ROM learning system that monitors, evaluates and documents the learner's progress. The program requires minimal teacher involvement in its delivery and takes between 4 and 6 hours to complete.

The CSTS certificate is a minimum industry requirement for workers at many construction sites throughout Alberta, and will benefit students looking for summer jobs that involve work around buildings and/or machinery. Merit Contractors Association, in providing placements for work experience and Registered Apprenticeship Program students in the construction trades, requires that students complete the CSTS program before commencing their workplace assignments.

The Alberta Construction Safety Association has agreed to provide the CSTS program materials to Alberta senior high schools at no cost. Students who successfully complete the program can register with the Alberta Construction Safety Association and obtain their certificates.

(June 2000)

For more information about the Petroleum Safety Training (PST) Program, contact:
Wayne Wetmore
Petroleum Industry Training Service
Telephone: 403–250–9606
Fax: 403–291–9408

The Construction Safety Training System (CSTS) and the Petroleum Safety Training (PST) Program have been granted equivalency. Following a review of these safety training programs by the Construction Owners Association of Alberta (COAA), the Petroleum Industry Training Service (PITS) and the Alberta Construction Safety Association (ACSA), the objectives and theory presented in each program were found to be equivalent.

In the construction industry, member companies of COAA should now accept safety training certificates issued by PITS as meeting the current requirements for CSTS certification. In the petroleum industry, companies should accept CSTS certification issued by the ACSA as meeting the current requirements for PST certification.

Although the examples used in each program are industry related, students who wish to work in both the construction and petroleum industries will no longer be required to complete both the CSTS and PST safety programs.

Boreal Wood Centre
(November 2000)

Refer to the Forestry section for information on how this article relates to the Construction Technologies strand.

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Cosmetology Studies

Articulation with the Apprenticeship Trades
(November 2000)

Refer to the CTS General section for information on how this article relates to the Cosmetology Studies strand.

Submissions Request

A consent form for sharing CTS implementation initiatives taken in your school and community is provided in Appendix 2.

The CTS team would welcome submissions regarding promising practices in the Cosmetology Studies strand; e.g., successful courses, effective partnerships, recommended practices, so that these might be shared in future versions of this document.

Forward articles to:

Alberta Learning
Career and Technology Studies Unit
Learning and Teaching Resources Branch
Devonian Building, 5th Floor East Tower
11160 Jasper Avenue
Edmonton, AB T5K 0L2
Canada
Telephone: 780–422–4872
Fax: 780–422–0576

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Design Studies

Students at Don Bosco Junior High Develop Technology Skills
(June 2000)

Refer to the Fashion Studies section for information on how this article relates to the Design Studies strand.

Exceptional Work by CTS Student at Foothills Composite High School
(June 1999)

Refer to the Construction Technologies section for information on how this article relates to the Design Studies strand.

CTS Courses at Austin O'Brien Let Students Help Themselves and Their Community
(June 1999)

Refer to the Communication Technology section for information on how this article relates to the Design Studies strand.

Bellerose Students Make Innovative Use of Technology in Design Studies
(November 1998)

For more information about this Design Studies program, contact:
Brian Noble
CTS Department Head
Bellerose Composite High School
Telephone: 780–460–8490
Fax: 780–459–0798
Email: nobleb@pschools.st-albert.ab.ca

Students at Bellerose Composite High School in St. Albert are developing technical skills they need for the next millennium, through courses in Design Studies that focus on basic design principles and architectural design. Offered to students in grades 10, 11 and 12, in a lab equipped with 28 computers, a laser printer and a colour ink jet plotter, the program requires students to spend approximately 95% of their learning time on the computer. Students learn to use a range of computer-assisted design programs and graphics animation software to complete projects that involve:

- architectural elevations, floor plans and working drawings
- computer colour rendering
- animated architectural walk-throughs
- promotional posters and brochures.

As part of an ongoing focus on career planning, students also use the Internet to research architectural history, styles and designers, as well as entrance requirements for architectural schools, universities and technical institutes.

The scope of the Design and Architectural Design program at Bellerose is well-illustrated by a project recently completed by one of the students for a local client. The project involved producing a complete set of architectural drawings—including floor plans, elevations, streetscapes and an architectural "flythrough" animation of the interior—for a 10-unit condominium complex. The client anticipates construction of the condominium, as planned by the student, to take place in the near future.

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The program has been very well received, with many students having gone on to pursue careers in architectural design. CTS Department Head and teacher Brian Noble recently received the Telus Innovative Use of Technology Award, in recognition of his innovative teaching methods and ability to motivate students in the program.

CTS Offerings at Archbishop MacDonald Embrace Technological Literacy
(November 1998)

Refer to the Information Processing section for information on how this article relates to the Design Studies strand.

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Electro-Technologies

John G. Diefenbaker High School Offers Training Opportunities in Computer Networking

For more information about this program, contact:
Roger Dion
CTS Teacher
John G. Diefenbaker High School
Telephone: 403–274–2240
Fax: 403–777–7669
Email: redion@cbe.ab.ca

The CTS Department at John G. Diefenbaker High School is planning to offer a series of four multiple-credit CTS offerings in computer network training based on Nortel Networks' NetKnowledge Program. Each of the multiple-credit offerings will be designed to provide knowledge and hands-on experience in setting up a computer network. In addition to classroom lectures, the program will include many projects and lab sessions.

The first multiple-credit offering, Internetworking Fundamentals (5 credits), will focus on developing basic competencies in the following areas—concentrators, routers, switches and cabling, networking vocabulary, important success skills, and occupations in the networking industry. This part of the program will be delivered in both the second semester of the 1999–2000 school year and the first semester of the 2000–2001 school year through the following CTS courses:

- INF2190: Telecommunications 1
- INF3020: Local Area Networks
- ELT1010: Electro-assembly 1
- ELT1060: Digital Technology 1
- ELT1090: Analog Communication 1
- CTR1010: Job Preparation (ongoing throughout the four semesters).

The second multiple-credit offering, Routing (5 credits), will focus on developing competencies in the following areas—Backbone Link Node (BLN), Access Node (AN), Advanced Remote Node (ARN), Access Stack Node (ASN), basic routing vocabulary, router statistics to verify proper router operation, common router problems and a day in the life of a router technician. This part of the program will be delivered in the second semester of the 2000–2001 school year through the following CTS courses:

- INF2010: Workstation Operations
- INF3130: Multimedia Authoring 2
- INF3180: Telecommunications 2
- ELT2070: Computer Technology
- CTR2110: Project 2A
- CTR1010: Job Preparation (ongoing throughout the four semesters).

Upon successful completion of the series of four multiple-credit CTS offerings, students will have acquired a conceptual foundation for advanced studies and certification directly applicable to the world of work. Students will be able to further their education by taking Nortel-certified core technology online examinations.

Articulation with the Apprenticeship Trades
(November 2000)

Refer to the CTS General section for information on how this article relates to the Electro-Technologies strand.

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Lester B. Pearson High School Prepares Students for Careers in Computer Networking
(December 1999)

For more information about this CTS program, contact:
Lionel Shewchuk, M.Ed.
Innovative Technology
Lester B. Pearson High School
Telephone: 403–280–6565
Fax: 403–777–7158
Email: lionel.shewchuk@cadvision.com
Web Site: http://www.cadvision.com/shewchul/index.html

Information about the NetPrep program may be obtained by visiting the WestNet Web site at http://www.westnetinc.com and/or the 3Com Web site at http://education.3com.com/netprep/index.html.

Developing the ability to design and program networked computers will prepare students for entering one of the fastest growing job markets in North America. Students at Lester B. Pearson High School in Calgary are developing these skills through CTS courses in Electro-Technologies, Information Processing and Career Transitions. These courses are being used to deliver a program called NetPrep to students in Grade 11 and Grade 12. By successfully completing this program, students will gain theory and hands-on experience in networking hardware and software, as well as 20 CTS credits over four semesters. Upon completing the program, students may attain Junior Network Engineering Status, by writing certification examinations through the National Association of Communication Systems Engineers (NACSE).

CTS teacher Lionel Shewchuk went to Denver last summer for a week of training in the NetPrep program. Delivered in partnership with 3Com Corporation, a company in the networking industry, the NetPrep program is student-based and vendor-neutral. It can be accessed either online or by CD-ROM and is organized around four levels that develop knowledge and skills in:

- networking fundamentals
- local area networks
- wide area networks
- networking architectures.

Training materials for the NetPrep program have been developed by WestNet Learning Technologies, and include tutorials, PowerPoint presentations, labs and evaluation schemes.

Lester B. Pearson High School will provide opportunities for students to take the first four courses in a series of eight NetPrep courses. By completing the remaining four courses at Mount Royal College in Calgary, students may become eligible for Senior Network Engineering Status through NACSE.

Lionel has seen his students become excited about learning skills they know will be useful in their careers. "This gives CTS teachers a boost in knowing that we are doing it right!"

James Fowler High School Prepares Students for Future Employment in the Networking and Telecommunications Industries
(December 1999)

For more information about this program, contact:
Annette Krawec
James Fowler High School
Telephone: 403–230–4743
Fax: 403–777–7609
Email: makrawec@acs.ucalgary.ca

James Fowler High School in Calgary is preparing students for the networking and telecommunications industries through Nortel Networks' NetKnowledge Program. The NetKnowledge Program is being offered over two years to students in Grade 11 and Grade 12 through multiple-credit CTS offerings.

The program is designed for students who wish to acquire a foundation in networking, switching and telecommunication technology. It prepares students not only for employment in the networking industry but also for advanced studies in computer science, engineering and other technology-related fields. Students who take the program will gain vendor-neutral expertise that is recognized by professionals within the networking industry.

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Information about Nortel Networks' NetKnowledge Program can be obtained by visiting their Web site at http://www.nortelnetworks.com/solutions/education/netknowledge/.

CTS teacher Annette Krawec says, "the NetKnowledge Program provides a wonderful opportunity for students to expand their knowledge and develop awareness of emerging employment markets. Our students deserve to be taught skills that will serve them well in the future." Annette has completed the first two of four units in Nortel Networks' NetKnowledge Teacher Certification through training sessions at the Southern Alberta Institute of Technology (SAIT), the regional training centre in Alberta. This preparation is for the first year of instruction to students.

Students who take the program receive instruction in all aspects of networking, routing and switching. The program incorporates many hands-on projects, labs and activities in order to develop an understanding of networking through practical experience. In the last semester, students are required to design networks that provide solutions to real-life business needs. The program covers topics that include internetworking fundamentals, routing, switching and network management, and unified networks emerging technologies.

Upon completing the program, students can obtain NetKnowledge Certification by passing an online examination. Students may then enhance their education and credentials by writing Nortel Networks' Certified Account Specialist examination. A student at James Fowler High School says, "this course will be great ... we need this kind of knowledge in order to get better jobs in the future."

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Energy and Mines

Students at Grand Centre High School Learn About the Engineering and Geology of Oil Sands

For more information about this program, contact:
Chris Holoboff
Assistant Principal
Grand Centre High School
Telephone: 780–594–3386
Fax: 780–594–7552
Email: choloboff@nlsd.ab.ca

OR

Sue Trefry
Mechanical Technologist
Imperial Oil Resources Cold Lake
Telephone: 780–639–5242
Fax: 780–639–5331
Email: mstrefry@telusplanet.net

Students at Grand Centre High School in Cold Lake can take courses in Energy and Mines designed to give them an overview of oil field geology and an introduction to the various engineering disciplines in the oil sands. The engineering disciplines covered are reservoir, production, process, mechanical, controls and environment. The courses also provide an overview of the petroleum industry, from history to refining and marketing.

The program offered at Grand Centre High School is a combination of teacher-directed work, self-study and workplace learning opportunities. The students work through "modules" within the school environment to develop understanding of the course content. Throughout the program, Imperial Oil staff regularly visit the school and work with the teacher to facilitate course delivery.

The program includes the following 1-credit courses from the Energy and Mines strand:

- ENM1010: Overview of Alberta Geology
- ENM2030: Oil Sands/Heavy Oil/Coal 1 (Resource Exploration)
- ENM3030: Oil Sands/Heavy Oil/Coal 2 (Recovery & Production).

Students are also required to spend two days at the Imperial Oil Heavy Oil Facility in Cold Lake to complete hands-on work and learn more about the engineering disciplines as explained by technical on-site staff. Toward the end of the program, a geologist from Imperial Oil Resources accompanies the teacher and students on a geology field trip where they learn more about the various geological formations and rock types.

Students at Grand Centre High School considering engineering or the petroleum industry as career possibilities have found this program to be very beneficial. Individual courses offered through the program have a strong foundation in mathematics and science.

Construction Safety Training System Prepares Students for the Workplace
(June 2000)

Refer to the Construction Technologies section for information on how this article relates to the Energy and Mines strand.

Resource Package Available for Energy and Mines
(June 2000)

BP Canada Energy Company, in partnership with Alberta Learning and through consultation with the Petroleum Communication Foundation and the Canadian Association of Petroleum Producers, recently developed a three-part video series called *Petroleum: Bridging the Future*. Developed primarily for use in CTS courses in Energy and Mines, the series includes the following video components:

- *Exploring the Ancient Sea*—examines the work of petroleum explorers in their search for oil and gas deposits
- *The Moment of Truth*—explains steps in the recovery process, all the way from preparing the drill site to testing and completing the well

For more information about this resource package, contact:
Dan Kane
Director, Government Relations
BP Canada Energy Company
P.O. Box 200, Station M
Calgary, Alberta T2P 2H8
Canada
Telephone: 403–233–1945
Fax: 403–233–1476
Email: kanedm@bp.com

- *Product by Design*—explains how petrochemical feedstocks and processes are used to create a range of "designer products" that many of us rely upon each day.

The video series was filmed entirely in Alberta, highlights potential career opportunities in the petroleum industry and emphasizes technology-related skills required for employment. Each 30-minute video is accompanied by print material that provides suggestions and activities for use in specific CTS courses.

BP Canada distributed, on a complimentary basis, *Petroleum: Bridging the Future* to all Alberta junior and senior high schools in November 1999. Also included in the resource package was *Our Petroleum Challenge*, a resource developed by the Petroleum Communication Foundation, in both print and CD-ROM formats.

Energy Efficiency Publications Available for Construction Technologies/ Energy and Mines
(December 1999)

For more information, or to place an order for these publications, contact:
Energy Publications
Office of Energy Efficiency
c/o DLS
Ottawa, ON K1A 0S7
Canada
Telephone: 613–995–2943
Toll Free: 1–800–387–2000
Fax: 819–994–1498

The publications may be ordered online through the Natural Resources Canada Web site at http://energy-publications.nrcan.gc.ca.

A series of energy efficiency publications, of relevance to courses in Construction Technologies and/or Energy and Mines, are available at no cost from the Office of Energy Efficiency, Natural Resources Canada. The publications include an extensive range of pamphlets and brochures related to:

- energy-efficient new homes
- home renovation
- home heating, cooling and ventilation
- household appliances and equipment
- the automobile
- transportation fuels.

For a complete listing of publications, visit the Energy Publications Virtual Library at the Natural Resources Canada Web site. These publications can also be viewed there.

Energy and Mines at Lindsay Thurber
(June 1998)

For more information about the PET program, contact:
Richard Siler
Lindsay Thurber Comprehensive High School
Telephone: 403–347–1171
Fax: 403–346–6411
Email: rsiler@rdpsd.ab.ca

The Energy and Mines strand provides a clustered structure through which students at Lindsay Thurber Comprehensive High School in Red Deer are able to take courses in Petroleum and Energy Technology (PET). PET courses offered in Grade 10, Grade 11 and Grade 12 consist of some 17 courses from the Energy and Mines strand, as well as courses from Career Transitions that are specific to activities in the oil field service industry.

CTS coordinator and teacher Richard Siler advises that students completing PET courses can receive, at the same time, certification in the Workplace Hazardous Materials Information System (WHMIS), Transportation of Dangerous Goods (TDG), Hydrogen Sulphide Alive (H_2S Alive) and Confined Space Entry. This enables students at Lindsay Thurber to move directly into the "oil patch," as well as continue their studies at NAIT or SAIT in the Power Engineering, Chemical Technology or Environmental Technology programs.

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Transitions to post-secondary study also have been enhanced by incorporating modules from the SAIT Open Learning Instructional System (SOLIS) into the PET program. Upon writing examinations created and scored by SAIT, PET students are granted advanced credit with the Energy and Natural Resources Department at SAIT.

FEESA Offers Inservice Opportunities for Teachers
(February 1997)

Refer to the Wildlife section for information on how this article relates to the Energy and Mines strand.

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Enterprise and Innovation

Entrepreneurial Adventure Project
(December 1999)

For more information about this project, contact:
Lorraine Chambers
Program Manager
The Learning Partnership
Telephone: 416–204–4234
Fax: 416–204–4378
Email: lchambers@tlp.on.ca

The Entrepreneurial Adventure Project is an innovative business–education partnership that brings together students in Kindergarten through Grade 9 with members of the business community to work on an entrepreneurial venture.

The project focuses on the development of critical and creative thinking skills, entrepreneurial attitudes and skills and personal skills essential to the future success of students. Members of the business community serve as advisors to students as they work in groups to create their own ventures. The project is also effective in helping teachers acquire and develop resource materials that support the development of entrepreneurial skills.

Sponsored by The Learning Partnership and Bank of Montreal Group of Companies, the Entrepreneurial Adventure Project has been successfully operating in Ontario and Nova Scotia. It is now ready to expand to Alberta.

Information on Entrepreneurship Useful for Teachers
(December 1999)

The Alberta Human Resources and Employment Web site is at http://www.gov.ab.ca/hre/.

Information for young people starting a small business is available from the Alberta Human Resources and Employment Web site. Click on Career Development, Programs and Services Listing, Self-Employment Program, and Starting Your Own Business: Information for Young Canadians. This information, of particular interest to teachers of Enterprise and Innovation, and Management and Marketing, covers a wide range of topics, including start-up issues, financing, business plan development and mentoring.

Future Entrepreneurs of Canada
(June 1997)

For more information, contact:
Susan de Wijk
Lester B. Pearson High School
3020 – 42 Street NE
Calgary, AB T1Y 5P4
Canada
Telephone: 403–280–6565
Fax: 403–777–7158
Email: sldewijk@cbe.ab.ca

Future Entrepreneurs of Canada (FEC) is a registered nonprofit organization that presents marketing, management and entrepreneurial skills to senior high school students interested in business as a career. This includes students who plan to enter the work force, attend post-secondary institutions or become entrepreneurs following senior high school.

FEC's goal is to promote better understanding and communication among students, teachers, parents and the business community. The major focus is to make the classroom learning environment as realistic to the business world as possible. This is achieved through the development of meaningful activities and projects, as well as standard evaluations to assess student achievement.

Any senior high school with a CTS program can join FEC, although the major focus of the projects/competitions is within the CTS Management and Marketing, and Enterprise and Innovation strands. A teacher/advisor from each FEC member school sits on the Advisory Committee, which serves as part of the provincial decision-making process. Some schools also have active student chapters that are involved in school-level projects.

The major yearly event of this association is the spring competition held each May.

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Fabrication Studies

Two Hills High School Offers a Range of CTS Courses in Industrial Education

Refer to the Mechanics section for information on how this article relates to the Fabrication Studies strand.

CTS Renovations at Innisfail Junior Senior High School

Refer to the CTS General section for information on how this article relates to the Fabrication Studies strand.

Articulation with the Apprenticeship Trades *(November 2000)*

Refer to the CTS General section for information on how this article relates to the Fabrication Studies strand.

Submissions Request

A consent form for sharing CTS implementation initiatives taken in your school and community is provided in Appendix 2.

The CTS team would welcome submissions regarding promising practices in the Fabrication Studies strand; e.g., successful courses, effective partnerships, recommended practices, so that these might be shared in future versions of this document.

Forward articles to:

Alberta Learning
Career and Technology Studies Unit
Learning and Teaching Resources Branch
Devonian Building, 5th Floor East Tower
11160 Jasper Avenue
Edmonton, AB T5K 0L2
Canada
Telephone: 780–422–4872
Fax: 780–422–0576

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Fashion Studies

Foods and Fashion Studies at Two Hills High School

Refer to the Foods section for information on how this article relates to the Fashion Studies strand.

Students at Don Bosco Junior High Develop Technology Skills
(June 2000)

For more information about this CTS program, contact:
Brieta Angus
Foods and Fashion Studies Teacher
Don Bosco Junior High School
Telephone: 403–278–8100
Fax: 403–271–2781
Email: brieta.angus@crcssd1.calgary.ab.ca

CTS students at Don Bosco Junior High School in Calgary have an opportunity to develop technology skills in Design Studies and Information Processing through the projects they complete in Fashion Studies.

At the beginning of her Fashion Studies program, CTS teacher Brieta Angus presents course expectations for sewing projects, and then provides a "technology option" for students who possess basic computer skills and prefer to create digital designs and use an embroidery machine rather than a sewing machine.

Students who choose the technology option in Fashion Studies learn to scan or create digital designs, alter these designs using paint applications on the computer, and then convert designs into a format suitable for use by the embroidery machine. Students also learn to download designs from the Internet and convert these into appropriate format for the embroidery machine.

Technology option students at Don Bosco use a digital camera to take pictures of their own and other students' projects, and they place these pictures on the school's Foods and Fashion homepage. As well, students compile a portfolio with samples of their work and a written account of the process completed in each class.

Brieta says that student achievement is evaluated according to a range of criteria relevant to the Fashion Studies, Design Studies and Information Processing strands.

CADTERNS for Fashion Studies

For more information, contact:
Marilyn Legard
CADTERNS Representative
CADTERNS Custom Clothing Inc.
Vancouver, BC, Canada
Telephone: 604–980–6249
Fax: 604–980–2044
Email: cadterns@compuserve.com
Web Site: http://www.cadterns.com

CADTERNS is a personal patternmaking program that generates Ready-to-Style slopers, with as few as four measurements, in virtually seconds. It installs on any PC operating in a Windows environment. Womenswear slopers include skirt, pant, bodice, blouse and sheath. Menswear slopers include trouser, casual shirt, classic shirt, vest and jacket.

Anyone can generate slopers with or without seam allowances and hems. This enables users to make complete patterns of wardrobe basics or to style new patterns. Slopers are available for any female or male figure ranging from 125 cm (4'2") to 205 cm (6'8") in height and from 53 cm (21") to 168 cm (66") in circumference. The first four measurements are used to automatically calculate all other measurements and ease allotments. These default measurement and ease values can be easily modified for fit or style preferences.

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The CADTERNS Web site includes a downloadable Limited Version that provides a completely interactive computer-assisted patternmaking demonstration. *Fashion Design and Patternmaking: A Crash Course for Recreational Designers* is available free to all visitors. This six-page document provides a foundation for the CADTERNS Cyber School of On-line Learning. Development of the Cyber School is ongoing.

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Financial Management

Online Consumer Information
(November 1998)

The Industry Canada Web site is at http://www.strategis.ic.gc.ca.

For additional information on consumer topics and questions, contact:
Reference Canada
Telephone: 1–800–622–6232

The Industry Canada Web site provides current information on a range of consumer topics of potential interest to teachers and students. Sections of the Web site that have particular relevance to the Financial Management and Legal Studies strands include:

- Licences, Legislation and Regulations
- Consumer Information.

The site also provides access to calculators and other online tools that are useful in a range of daily living scenarios. For example, the Credit Card Costs Calculator will enable students to determine which credit card will charge the least interest and fees, based on their use of credit. The Financial Service Charges Calculator will help students to compare service charges at major banks in Canada.

CTS Offerings at Archbishop MacDonald Embrace Technological Literacy
(November 1998)

Refer to the Information Processing section for information on how this article relates to the Financial Management strand.

Submissions Request

A consent form for sharing CTS implementation initiatives taken in your school and community is provided in Appendix 2.

The CTS team would welcome submissions regarding promising practices in the Financial Management strand; e.g., successful courses, effective partnerships, recommended practices, so that these might be shared in future versions of this document.

Forward articles to:

Alberta Learning
Career and Technology Studies Unit
Learning and Teaching Resources Branch
Devonian Building, 5th Floor East Tower
11160 Jasper Avenue
Edmonton, AB T5K 0L2
Canada
Telephone: 780–422–4872
Fax: 780–422–0576

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Foods

Foods and Fashion Studies at Two Hills High School

For more information about this program, contact:
Joanne Elkow
Foods and Fashion Studies Teacher
Two Hills High School
Telephone: 780–657–3383
Fax: 780–657–2227

Education that builds skills immediately applicable to everyday life is what the Foods and Fashion Studies program at Two Hills High School provides. Students taking these CTS courses are developing competencies that will help them make smooth transitions to adult roles in the family, community, further learning and the workplace.

A visitor to the Foods and Fashion Studies lab may at times see as many as 20 different learning activities in progress at the same time. At one side of the lab, several different recipes are usually being prepared. Other groups of students will likely be seen analyzing food products for their nutritional value, completing written assignments and planning for the next day's activities by determining grocery needs.

On the other side of the Foods and Fashion Studies lab, students will be seen altering and tracing patterns, cutting out fabric, sewing a variety of clothing items, or choosing patterns and fabric for another project. All projects that are sewn in these CTS classes are featured in the High School Fashion Show held later in the spring.

Foods and Fashion Studies are life skills courses through which students at Two Hills High School are able to enhance their personal lives. These courses enable students to make informed consumer decisions, and even more importantly, help students develop valuable social skills as they learn to work collaboratively within a unique classroom setting.

CTS Renovations at Innisfail Junior Senior High School

Refer to the CTS General section for information on how this article relates to the Foods strand.

Nutrition Education Resource Catalogue for Foods
(November 2000)

To obtain a free copy of this catalogue, contact:
Debbie Augustyn
Dairy Nutrition Council of Alberta
14904 – 121 A Avenue
Edmonton, AB T5V 1A3
Canada
Telephone: 780–453–5902
Toll Free in Alberta: 1–800–252–7530
Email: daugustyn@dnca.ab.ca

The Dairy Nutrition Council of Alberta is pleased to announce the release of its 2000–2001 *Nutrition Education Resource Catalogue*. New items included in the catalogue this year include:

- *Calcium Calculator on CD-ROM*, a Mac and PC compatible interactive computer program
- *Nutrition File™ for Teens: Building Better Bones through Good Nutrition*, a teaching kit to help increase student awareness and knowledge about the role of nutrition in bone health
- *When It Comes to Healthy Bones, Are You Getting the Full Picture?*, a brochure that explains the role of the bone-building nutrients that milk provides
- *Chocolate Milk: It's all Here in Brown and White!*, provides the nutritional truths about chocolate milk
- *Grow with Milk*, a kit designed for teachers and community leaders working with elementary school aged children—includes a videocassette, poster/game, information booklet and more
- *Feeding Your Baby*, a chart that outlines the basics about what and when to feed a child during the first year of life.

"Early Bird" Classes Make Effective Use of CTS Facility at St. Francis High School
(June 2000)

For more information about this CTS program, contact:
Virginia Houlihan
CTS Foods Teacher
St. Francis High School
Telephone: 403–289–8471
Fax: 403–284–3084
Email: virginia.houlihan@crcssd1.calgary.ab.ca

The CTS Foods strand is so popular with students at St. Francis High School in Calgary that scheduling classes has become a major logistical challenge! With four Foods and Fashion teachers offering a variety of 3- and 5-credit course clusters, it has been necessary to double book the Foods lab for the last few years. Double booking involves having each Foods class use both a lab and regular classroom, and requires each class to alternate periods spent in the lab with another Foods class.

Last spring, following a highly successful promotion of the program with feeder junior high schools, even the double booking approach to scheduling classes would not meet demands. With little hope of a second Foods lab in the near future, the CTS Department decided to schedule additional Foods classes by introducing an "Early Bird" class.

CTS Foods teacher Virginia Houlihan offers her "Early Bird" Foods class each day from 7:00 a.m. to 8:20 a.m. Virginia arrives at school early and has a pot of coffee ready when her students arrive. She and her students then finish their school day one class period earlier than the rest of the school.

This innovative approach to scheduling classes at St. Francis has allowed more students to take Foods courses, even though the lab was already double booked.

CTS Teachers at Bishop Grandin High School Have Opportunity to Job Shadow
(June 2000)

For more information about this job shadow experience, contact:
Wilma Moar
CTS Foods Teacher
Bishop Grandin Senior High School
Telephone: 403–252–7541
Fax: 403–640–0116
Email: wilma.moar@crcssd1.calgary.ab.ca

Would you like to ... spend a day at the Southern Alberta Institute of Technology (SAIT)? ... follow a SAIT instructor as he or she teaches a practical food preparation class? ... have an opportunity to talk to a SAIT instructor about their programs? These were questions we were asked when the proposal for our March 10th Professional Day was being organized.

Three CTS Foods teachers, Linda Van Ham, Julianne Whitburn and Wilma Moar at Bishop Grandin Senior High School in Calgary enthusiastically answered, "YES!" We were eager to begin the day and were full of expectations as we arrived on campus at 8:00 a.m. We would not be disappointed.

As we began our visit, we were introduced to the Coordinator of Faculty Scheduling who outfitted us in crisp white lab coats, chef's hats and name tags. The coordinator outlined the Foods Program offered at SAIT and answered our numerous questions as we were guided on a tour of the lab, cafeterias and the Highwood Dining Room. All of these venues offered food products skillfully prepared by the Professional Cooking and Commercial Baking students.

We had an opportunity to visit with highly skilled chef instructors and mingle with the students as they prepared attractive plated foods. The students were focused as they showcased their expertise in the culinary arts, from breakfast foods to gourmet dinners. We also observed students as they worked outdoors, artistically carving elaborate ice sculptures to be used as displays for buffet service.

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Career opportunities were also discussed. Upon completion of the certificate program, students may find employment in many different areas of the tourism and hospitality industry. Graduates of the Retail Meat Cutting program are in high demand.

The day spent at SAIT featured the talents of future chefs as they learned the skills necessary to meet the challenges of the tourism and hospitality industry. What an informative and enjoyable Professional Day!

Potato Growers of Alberta Provide Resource for Foods Courses
(June 2000)

For more information about this resource, contact:
Potato Growers of Alberta
6008 – 46 Avenue
Taber, Alberta T1G 2B1
Canada
Telephone: 403–223–2262
Fax: 403–223–2268
Email: pga@potatonet.com

Foods teachers may be interested in a resource *Appealing Potatoes: A Complete Guide for Foodservices*, published by the Potato Growers of Alberta. The 50-page manual includes information about buying, preparing and promoting high quality potatoes. It is an excellent resource for teaching CTS students about high quality potato dishes with Alberta potato varieties. Topics include:

- the best potato variety for the cooking method
- over 100 ways to serve potatoes with 10 recipes
- purchasing guidelines for fresh, frozen and pre-peeled potatoes
- storage handling tips presented with light-hearted illustration
- understanding how potatoes are grown and processed
- learning about the deep roots potatoes have in our culture.

Articulation with the Apprenticeship Trades
(November 2000)

Refer to the CTS General section for information on how this article relates to the Foods strand.

St. Francis Students Showcase Their Learning by Developing Portfolios
(November 1998)

For more information about this portfolio project, contact:
Pamela Borowski
Food Studies Teacher
St. Francis High School
Telephone: 403–289–8471
Fax: 403–284–3084

Students at St. Francis High School in Calgary are developing portfolios to showcase the skills and competencies they possess as a result of their work in FOD3060: Food Presentation, a 1-credit course in the Foods strand.

Food Presentation requires students to demonstrate their knowledge of the principles and elements of design, by preparing food products that meet certain criteria; e.g., students prepare canapés, garnishes, cold platters, balanced menus and buffets. Photographs are then taken of the food products created by students. Each photograph is mounted on a page, with an explanation of how the food product meets the criteria for each of the concepts studied. The end result is a portfolio, developed by each student, that showcases their knowledge, techniques, food products and creative expression.

Food Studies teacher Pamela Borowski suggests that the portfolio project challenges each student's creative flair and is effective in helping students refine basic techniques for creating and presenting artistic food. "The project enables students to understand the relationship between theory and practical lab requirements—students take a great deal of care in the analysis of each food product and in designing corresponding pages for their portfolios."

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Portfolio development has also given students in the class an opportunity to assess creative food presentation as a significant career choice. Many of the students plan to use their portfolios in interviews with prospective employers.

FoodFocus
(October 1996)

For information on obtaining the new food data, contact:
FoodFocus Nutrition Analysis Software for Education
721 South Drive
Winnipeg, MB R3T 0C2
Canada
Telephone: 204–453–6060
Fax: 204–477–9906
Email: vprowse@foodfocus.com
Web Site: http://www.foodfocus.com/foodfocus

FoodFocus announces that version 3.0 of its nutrition analysis software has been selected as a basic learning resource by Alberta Learning. The Alberta Learning Resources Distributing Centre joins the Manitoba Text Book Bureau and the New Brunswick School Book Branch in distributing FoodFocus software.

FoodFocus is unique in being Canadian. It includes easy-to-use software that uses pictographs to graphically illustrate the nutrient content of selected foods. Although targeted at junior and senior high schools, FoodFocus has been used from elementary school to university and in public health across Canada.

FoodFocus announces the release of version 3.1, which adds a baby carriage pictograph—when a pregnant user is defined—to indicate the degree of success in meeting energy, calcium, iron and folate Recommended Nutrient Intakes (RNI's) and a rainbow pictograph—based on the Health Canada Food Guide rainbow—to indicate the degree of success in meeting Health Canada's recommendations for the number of servings in the four basic food groups.

FoodFocus Update
(June 1998)

Teachers have been asking for more and better Canadian food nutrient data. Since Health Canada released the 1997 Canadian Nutrient File, this information can be made available to students by adding the 1997 food data to the existing FoodFocus computer program.

This food data reflects Canadian foods, as well as Canadian levels of fortification and regulatory standards. Users will find more fibre data for peas, beans, breads, cereals and related products; more brand names for breakfast cereals and margarine; and more contemporary foods, such as salsa, rice cakes and fruit leather.

As of December 1998, Version 3.2 of FoodFocus includes the cost of foods, so economics can be included in nutrition projects. Having the choice of more measures, and the ability to specify sizes and shapes, makes selecting food quantities easier and more accurate. Multiple nutrient analysis windows make comparing nutrients in foods more convenient. Exploring dietary alternatives when changing a food quantity is a breeze, and seeing the nutrient analysis summary update is as fast and easy as a single keystroke. A body mass index calculator is included.

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Newsletter Available from the Dairy Nutrition Council of Alberta
(June 1998)

For more information, contact:
The Dairy Nutrition Council of Alberta
Telephone: 780–453–5942 (Edmonton)
Toll Free: 1–800–252–7530
Fax: 780–455–2196

Nutrition File for Health Professionals is a research newsletter written by registered dieticians for individuals involved in nutrition education. It is published four times a year. You can request a complimentary copy, or have your name added to the mailing list, by contacting the Dairy Nutrition Council of Alberta.

Nutrition Education Workshops Available
(November 1998)

For more information, or to arrange a workshop in your school or community, contact:
The Dairy Nutrition Council of Alberta
Telephone: 780–453–5942 (Edmonton)
Toll Free: 1–800–252–7530
Fax: 780–455–2196

Registered dieticians from the Dairy Nutrition Council of Alberta will deliver workshops to bring nutrition education to your classroom. The Eating Edge program, suitable for grades 7 through 12, is available to teachers who attend a 90-minute, action-packed workshop. Participants receive a 30-page teacher's guide, complete with lesson plans and colourful overhead transparencies. Free student worksheets are also available.

Through the Eating Edge program, students learn to develop skills to make healthy food choices in today's ever-changing world. The cost of the workshop and materials is $10 per teacher. This fee is waived for individuals who assist in organizing a workshop.

Public Health Act *Food Regulation*
(November 1998)

To obtain print copy, contact:
Queen's Printer Bookstore
11510 Kingsway Avenue
Edmonton, AB T5G 2Y5
Canada
Telephone: 780–427–4952
Fax: 780–452–0668

FOD2150: Food Safety & Sanitation requires students to "demonstrate the safe handling of food in a manner consistent with section 43 of the *Public Health Act* Food Regulation." To facilitate public access to this and other legislation, Alberta regulations are available for viewing and downloading through the Internet at http://www.gov.ab.ca/qp/regs.html.

Foods teachers can obtain print copies of specific acts and regulations relevant to the food industry from the Queen's Printer Bookstore. This information is also available at most public libraries in the province.

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Forestry

Forestry at Fort Assiniboine School

For more information about this program, contact:
Mark Thiesen or Ian Tisdale
Fort Assiniboine School
Telephone: 780–584–3751
Fax: 780–584–3876
Email: mthiesen@phrd.ab.ca

Fort Assiniboine School is participating in a large-scale initiative in Forestry that involves partnerships with both the public and private sectors. Students at the school are being immersed in the real-world forest industry as they learn how to measure the forest; develop survival skills in the forest; and study a variety of other topics, including silviculture and harvesting techniques, mapping and aerial photography. Forestry teacher Ian Tisdale says, "Our goal is to help students who graduate with courses from the Forestry strand to have a head start in both post-secondary schooling as well as future careers. I think this program does a great job in preparing students for future careers in the forestry sector."

Meeting students' needs in a variety of option areas can be a challenge for small schools. Fort Assiniboine School has addressed this challenge by combining some of its optional course offerings with core courses. For example, FOR1090: Forest Ecology 1 (Ecosystem Dynamics) is delivered in combination with Science 10. This delivery strategy works well, giving students an opportunity to apply and extend their learning of science concepts in practical and career-related contexts.

Fort Assiniboine School has also become an active partner with the Junior Forest Wardens (JFW) program in Alberta. Student registration in the JFW program has provided many valuable learning experiences, many of which occur through camp-outs and weekend excursions. Principal Mark Thiesen says, "The Junior Forest Wardens program has been a great addition to our school. Students work within the context of the JFW program to learn more about forests and the environment. I think our students are beginning to see the forest through the trees."

Adding to the excitement of the Forestry program is the constant mix of theoretical and practical work. Being located in a mixed-wood forest environment, Fort Assiniboine School allows students to develop an understanding of forestry concepts within the classroom and then apply them in the bush. In the future, Fort Assiniboine School would like to acquire some land so as to permit students to construct a permanent eco-campsite and an interpretive trail.

Forestry at a Virtual School

The virtual leaf collection can be viewed at http://members.tripod.com/~MutantCow/Forestry/.

One of the adaptations necessary for teaching Forestry courses at a virtual school was the development of a "virtual leaf collection," which has been posted on the Internet for others to view.

The virtual leaf collection was created by a CTS Forestry student and provides many excellent photographs of trees, shrubs and flowers found in Alberta's forest regions. The web page also provides links to other forestry sites.

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Boreal Wood Centre
(November 2000)

The Boreal Wood Centre Web site is at http://www.telusplanet.net/public/borealw.

For more information about these programs, contact:
Boreal Wood Centre
Fairview College
Telephone: 780–836–3520
Fax: 780–836–3101
Email: borealw@telusplanet.net

The Boreal Wood Centre, located in Manning, is a forest industry education program. The centre represents a partnership established between the Manning Diversified Forest Products Research Trust Fund, K P Wood Ltd. and Fairview College. The goal of the Boreal Wood Centre is "to promote the wise use of timber resources in the boreal forest" through research, public awareness and training.

The Boreal Wood Centre has developed resource materials for senior high school students on careers in wood processing. These materials link with CTS courses in Construction Technologies and Forestry, and provide students with an overview of the structure and value of the forest products industries and careers available in the manufacturing of primary and secondary wood products.

Through the Fairview College Foundation, the Boreal Wood Centre administers a scholarship fund for students pursuing careers in wood processing and forest management. Both Manning Diversified Forest Products Ltd. and K P Wood Ltd. contribute funds to the student scholarships. Over the past four years, 78 awards have been granted—a total of $91 400 in assistance given to students.

Also administered by the Boreal Wood Centre, in consultation with Manning Diversified Forest Products Ltd. and Peace River School Division No. 10, is a unique program called the Boreal Forest Education Award. This program provides an incentive for senior high school students to expand their knowledge of the boreal forest through funds made available to carry out applied research projects in social studies, biology and CTS courses. Three projects carried out during the 1999–2000 school year were:

- Agro-Forestry Nursery Business at Dixonville School, Dixonville
- Chinchaga Wildland Park at Paul Rowe Junior Senior High School, Manning
- Tree Seedling Greenhouse and Experimental Plot at Dr. Mary Jackson School, Keg River.

Recently, the Boreal Wood Centre and the Manning Diversified Forest Products Research Trust Fund organized an educational display of over 30 environmental research projects. More than 400 junior and senior high school students, representing seven communities, visited the display. The display featured speakers on a range of topics, including caribou, tree genetics, biodiversity, watershed management and the use of wood products.

Alberta Environment Offers Learning Opportunities in Forestry
(June 2000)

Alberta Environment's Forestry Youth Programs homepage is at http://www.gov.ab.ca/env/forests/fpd/jfw/index.htm.

Alberta Environment's Junior Forest Ranger (JFR) program offers senior high school students aged 16 to 18 an exciting opportunity to live, work and learn in a forest environment. Crews of 12 students, together with a supervisory team and a cook, reside in rustic field camps for seven weeks in July and August. Crew members spend approximately two-thirds of their time assisting with forestry-related projects sponsored by Alberta Environment or other partners. The remaining one-third of the program time is dedicated to exposing crew members to a variety of careers in the environmental sciences field, through local tours, lectures, training and ride-along opportunities.

Typical JFR Work Projects

- Erosion Control
- Site Reclamation
- Stand Tending
- Trail Construction
- Weed Control
- Tree Planting

Typical Tours, Lectures and Training

- Career Opportunities in Forestry
- Fire Operations Presentations
- Insect and Disease Presentations
- Land Use Tours and Discussions
- Forestry/Parks Ride-alongs
- Sawmill and Pulp Mill Tours

For information about the Junior Forest Ranger program, contact:
Forestry Youth Programs
Telephone: 780–422–4414
Fax: 780–415–1831
Email: Kevin.Wirtanen@gov.ab.ca

JFR crews can be located anywhere in the province and work closely with a crew coordinator from the local Land and Forest Service office. JFR crews are supervised by senior post-secondary environmental science students who are familiar with the outdoors and working with youth. Meals, tents and transportation are provided. In addition, crew members earn approximately $900 during the program.

The program is open to all full-time senior high school students who are between 16 and 18 years of age by July 1 of the year in which they participate in the program. Confirmation of school attendance by the school principal or guidance counsellor is required for all applicants. Relevant certifications and experience are assets. The application deadline is April 13, 2001.

Taste of Sweet Success for Peace River Forestry Students
(June 1998)

For more information about the birch syrup project, contact:
Mark Ladd
Peace River High School
Telephone: 780–624–4221
Fax: 780–624–4048
Email: laddm@prsd.ab.ca

A group of Grade 11 students in Forestry at Peace River High School worked on a birch syrup-making project. Students gained hands-on experience in the process of tapping, collecting and boiling sap into syrup.

After the planning period, which began in October 1997, students embarked on the practical aspects of the project on April 2, 1998—tree tapping takes place after six consecutive days of temperatures well above freezing. Students learned that tapping the tree involves a trek into the bush with a manual drill, buckets, spigots and some "elbow grease." After the sap was collected, students learned to monitor the progress of the sap as it boiled down to syrup, a delicate process that took about six hours. Total class production was 10 litres of birch syrup that tasted great.

Technical advice for the project was provided by The Original Alaska Birch Syrup Company, a company in Alaska that specializes in birch sap and its by-products. Funding for the project came from the Manning Diversified Forest Product Research Trust Fund as a Boreal Forest Education Award. The award of $2200 went toward the cost of an evaporator, transportation, food for the students and tapping paraphernalia.

Besides having important educational value as an intensive use of the forest, teacher Mark Ladd said the birch syrup project was a potential source of revenue for the Peace River Forestry class—one gallon of the syrup sells for between $100 and $120. Having been a most successful endeavour, Mark plans to make the project an ongoing part of his Forestry program.

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Linking CTS Forestry with the Junior Forest Wardens Program
(January 1998)

For more information about Junior Forest Wardens programs in Alberta, contact:
Bob Young
Provincial Coordinator
Forestry Youth Programs
Telephone: 780–422–5172
Fax: 780–415–1831
Email: Bob.Young@gov.ab.ca

Junior Forest Wardens (JFW) is a national outdoor environmental and forestry education program sponsored in Alberta by the Forest Protection Division of Alberta Environmental Protection. JFW provides hands-on experience for youth that fosters awareness, appreciation and respect for our natural environment. Through a focus on the principles of sustainability and responsible use, members develop knowledge and skills that link with competencies defined in a number of the CTS Forestry courses.

Program objectives for JFW are defined through their *Educational Framework* and numerous activity manuals that develop competencies in four basic areas—forestry, ecology, travel in the woods and leadership. Contact with professional foresters and industry partners provides JFW members with exposure to responsible forest management techniques and viable career options.

AFPA Resources for Forestry
(June 1998)

To obtain a list of Web sites or copies of the print materials, contact:
Alberta Forest Products Association
200, 11738 Kingsway Avenue
Edmonton, AB T5G 0X5
Canada
Telephone: 780–452–2841
Fax: 780–455–0505
Web Site: http://www.abforestprod.org

Thanks to the efforts of the Alberta Forest Products Association (AFPA), a newly compiled list of Web sites providing forestry information is now available. Forestry print materials available from the AFPA, at no cost, include:

- *Educational Resources*—a series of seven brochures
  1. Products from Canada's trees
  2. Alberta's trees "A Renewable Resource"
  3. Planting a conifer tree seedling
  4. Provincial tree of Alberta
  5. Are we running out of trees?
  6. Biodiversity: An Environmental Imperative
  7. Tours, trails and Internet links to other forest education resources
- *Committed to Sustainability*—a book on the Alberta forest products industry
- *FORESTCARE Codes of Practice*—a booklet on the FOREST*CARE* Program
- a series of forest industry issue backgrounders dealing with Climate Change, Careers, Public Participation and Environmental Protection.

BP Canada Produces Resource Package
(February 1997)

Refer to the Wildlife section for information on how this article relates to the Forestry strand.

FEESA Offers Inservice Opportunities for Teachers
(February 1997)

Refer to the Wildlife section for information on how this article relates to the Forestry strand.

Information Processing

Web-based Instruction Used to Deliver Information Processing Courses at Ross Sheppard High School

The CTS Web site at Ross Sheppard High School is at http://www.shep.net/cts/. This site is best viewed using Microsoft Internet Explorer 5.

For more information about this program, contact:
Norman Mathew
Department Head CTS
Ross Sheppard High School
Telephone: 780–448–5000
Fax: 780–452–7563
Email: nmathew@epsb.edmonton.ab.ca

At Ross Sheppard High School in Edmonton, web-based instruction is being used in computer programming classes to meet the diverse needs of students.

Students are being given flexible options for course selection and for completion of a sequential program in computer programming through the scheduling of multilevel classes. Programming 10, Programming 20 and Programming 30 classes are all scheduled at the same time and in the same classroom. In addition, "virtual classes" are made available for those students who may not be able to fit a computer programming class into their regular schedule. Students who take virtual classes complete much of their course work at lunch time or after school. These students may also complete some of their course work at home, even though the virtual classes are not intended to be a home-school delivery option.

Providing flexible options for students who wish to take computer programming has created challenges for course delivery. To address these challenges, a CTS Web site has been created that provides all of the instructional materials that students require to complete their courses. Students quickly learn to use the school web server to access the information they need and complete their projects. Because students are able to access all of their course instructional materials through the Web site, the teacher is able to spend more time working with students in small groups or on a one-to-one basis.

Web-based instruction provided through the CTS Web site at Ross Sheppard High School also provides students with the opportunity to work at their own rate and thus proceed through instructional materials at a comfortable pace.

John G. Diefenbaker High School Offers Training Opportunities in Computer Networking

Refer to the Electro-Technologies section for information on how this article relates to the Information Processing strand.

CTS Renovations at Innisfail Junior Senior High School

Refer to the CTS General section for information on how this article relates to the Information Processing strand.

Students at Don Bosco Junior High Develop Technology Skills
(June 2000)

Refer to the Fashion Studies section for information on how this article relates to the Information Processing strand.

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James Fowler High School Prepares Students for Future Employment in the Networking and Telecommunications Industries
(December 1999)

Refer to the Electro-Technologies section for information on how this article relates to the Information Processing strand.

Lester B. Pearson High School Prepares Students for Careers in Computer Networking
(December 1999)

Refer to the Electro-Technologies section for information on how this article relates to the Information Processing strand.

CTS Offerings at Archbishop MacDonald Embrace Technological Literacy
(November 1998)

For more information about the courses offered in CTS, contact:
Rosemary Ollis
CTS Coordinator
Archbishop MacDonald High School
Telephone: 780–451–1470
Fax: 780–455–5571
Email: ollisr@ecsd.net

Archbishop MacDonald High School continues to maintain its tradition as a leader in technological innovation through course offerings in CTS.

Prior to the provincial implementation of CTS, administrators and parents in this school community recognized the essential role of technological literacy in the lives of future graduates. In response, the school has been providing information and data processing courses—instruction in computer operations, keyboarding, word processing and other essential data processing applications—as a required instructional component for a number of years.

Today, Archbishop MacDonald High School views CTS as integral to the success of students and continues to emphasize the role of technological literacy. In addition to having over 200 Grade 10 students enrolled in introductory level Information Processing courses, the school boasts a high rate of enrollment in intermediate level and advanced level Information Processing courses. This dedication to technology has helped many of Archbishop MacDonald's students get jobs in the technology sector and helped them to enjoy entrepreneurial success in areas ranging from Web site authoring to software design.

Archbishop MacDonald High School also prides itself on the abundance of CTS offerings in other areas. Although the purchase of software for Design Studies may have cost the school many thousands of dollars, students have taken to CAD with an enthusiasm that was noticeably absent in previous non-computer based drafting courses. Courses in Financial Management, offered on an independent study basis at the intermediate and advanced levels, consistently draw in excess of 50 eager future entrepreneurs. In addition, the school has been able to combine, with core curriculum, CTS courses on Biotechnology, Nutrition and Digestion, Outdoor Experience, and Petrochemicals.

HyperStudio Software for Multimedia Courses
(November 1998)

Refer to the Communication Technology section for information on how this article relates to the Information Processing strand.

Legal Studies

Teacher's Kit on the Correctional System for Legal Studies
(December 1999)

For more information, or to obtain a free copy of this kit, contact:
Stephane Bachand
Publications
Multimedia Services
Communications and Consultation Sector
Correctional Service of Canada
Telephone: 613–995–5364
Fax: 613–947–0091
Email: bachandsr@csc-scc.gc.ca

As one of its most recent public education initiatives, Correctional Service of Canada has produced a teacher's kit entitled, *Inside Out: A Teacher's Guide to Corrections and Conditional Release.* The kit is designed to be used by senior high school teachers at the Grade 11 and Grade 12 levels.

The teacher's kit includes the video *A Test of Justice*, which follows an offender through his arrest, imprisonment and conditional release into the community. The kit also includes comprehensive teacher's notes, student activities, handouts and other classroom resources that can be used to introduce these subjects to students.

The teacher's kit is available in both official languages, free of charge. An electronic version of the kit—text only—can be viewed at http://www.csc-scc.gc.ca/text/pub-ed_e.shtml, under Inside Out.

Online Consumer Information
(November 1998)

Refer to the Financial Management section for information on how this article relates to the Legal Studies strand.

Information Sessions on Privacy Available for Legal Studies
(November 1998)

For more information about the sessions, or to arrange a booking, contact:
Tim Chander
Office of the Information and Privacy Commissioner
Telephone: 780–422–6860
Fax: 780–422–5682

The Office of the Information and Privacy Commissioner is offering information sessions for senior high school students on issues surrounding privacy and the protection of privacy. The information sessions support introductory level courses in Legal Studies, as well as Social Studies 10 and Career and Life Management 20, and can address topics that include:

- the general nature of privacy and personal information
- who collects personal information
- how personal information is collected
- privacy and banking
- privacy and the Internet
- privacy and employment
- privacy and drivers' licences
- privacy and subscriptions/promotions.

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Logistics

CTS Students at Okotoks Junior High School Learn About the Working World through Logistics
(June 2000)

For more information about this CTS program, contact:
Kevin Knibbs
Vice-Principal
Okotoks Junior High School
Telephone: 403–938–4426
Fax: 403–938–4410
Email: knibbsk@fsd38.ab.ca

Students at Okotoks Junior High School are learning about life in the working world through a CTS program in Logistics. According to Vice-Principal and teacher Kevin Knibbs, students are being introduced to the field of logistics through video presentations, guest speakers, group projects and work study.

As part of their program, students first look at the logistics of how they get to school in the morning. Then they research the steps involved in getting a wild animal from the jungle to a zoo, track a cereal box from the table back to the field, or trace a 911 call from start to finish. As learning progresses, students develop knowledge of various sectors within the field of logistics—customer service, order processing, inventory, warehouse/distribution and transportation/traffic.

Local businesses, including the library, car dealerships, fast food restaurants, grocery stores and animal clinics have participated in the logistics program by offering work study sites to students. Once a week, each student takes part in a work study with a local employer to find out first-hand how logistics affects their business. Toward the end of their study, students prepare a PowerPoint presentation on the logistics of the business in which they were involved.

Kevin says that the support for the program from local businesses has been tremendous and is essential for students to fully understand the principles of logistics. "The work study component of the program has sparked a real interest with the students ... it gives some students their first opportunity to work and also references for the future. Our students will be able to take what they have learned to places like SAIT and DeVry and have an advantage in understanding how business works."

CTS Logistics and Fairview College
(June 1999)

For more information on the designated occupation of Warehousing, contact:
Apprenticeship and Industry Training Division
Telephone: 780–427–8765
Toll Free: 310–0000
Fax: 780–422–7376
Email: aitinfo@aecd.gov.ab.ca

Information about Alberta's designated occupations is also available through the Apprenticeship and Industry Training Division Web site at http://www.tradesecrets.org.

On August 1, 1996, the designated occupation of Warehousing was established by the Province of Alberta. This designation established a set of provincial standards for individuals wishing to train and work in the warehousing and materials handling industry. Provincial Certification is provided at three distinct levels of expertise—Basic, Intermediate and Technician.

To provide training for the Warehousing occupation, Fairview College has developed a modular program that covers 20 different areas of expertise related to the warehousing industry. Approved as meeting the provincial standards for the Warehousing occupation, as set by industry and the Apprenticeship and Industry Training Division, the Fairview training program includes modules on:

- Introduction to Warehousing Operations
- Material Handling Procedures
- Inventory Control
- Purchasing
- Warehouse Management

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For information on training and support materials for the Warehousing occupation that are available from Fairview College, contact:
Allan Jordison
Instructor
Trade Technologies Department
Fairview College
Telephone: 780–835–6725
Fax: 780–835–6784
Email: ajordison@fairviewc.ab.ca

- Transportation and Traffic
- Quality Customer Service.

Many of the instructional materials developed by Fairview College are available in a distance delivery format and can be used to support classroom and workplace activities related to CTS courses in Logistics. The instructional materials include integrated student assignments, self-check questions and, if requested, evaluation materials. Successful completion of the Warehousing modules by CTS students in Logistics can provide opportunities for advanced credit in the Fairview College program and can provide the future opportunity of applying for a Provincial Occupational Certificate in Warehousing after the required work experience has been completed.

Support Available to Implement Logistics Strand
(January 1998)

For more information about the Logistics strand, contact:
Michael Alpern
CTS Program Consultant
Telephone: 780–422–3272
Fax: 780–422–0576
Email: Michael.Alpern@gov.ab.ca

To access classroom support and/or for assistance with off-campus placements, contact:
Gary Palmer
Enterprise Performance Advantage Incorporated
Telephone: 403–949–2457
Fax: 403–949–2467
Email: gary.palmer@sap.com

Logistics, one of the most recent CTS strands, represents a relatively new but fast growing career field. Logistics involves the movement of goods from producer to consumer. It is the integrating process that includes controlling, managing and operating the transportation of goods, including information.

Practitioners describe logistics as the process involved in getting the right product to the right place at the right time and at the right cost. In fact, logisticians say that just about everything people use, wear or consume in their daily lives is affected by logistics.

Support and assistance can be accessed to implement and deliver the 12 courses in the Logistics strand. A group of logistics professionals, many of whom are newly designated P. Log. (Professional Logistician) holders, have volunteered to assist teachers in implementing logistics courses. These logistics professionals will facilitate teacher access to classroom resource persons and facilitate student placements in off-campus logistics workplaces.

Sir Wilfrid Laurier Junior High School Explores Career Paths Logistically
(June 1998)

For more information, contact:
Debbie Vance
Calgary Board of Education
Telephone: 403–294–6307
Fax: 403–294–6363

Students in Grade 9 at Sir Wilfrid Laurier Junior High School in Calgary have been able to increase their awareness of career options through an innovative offering in Logistics.

In order to provide students with real-life, practical experiences, courses from the Logistics strand were integrated with learning experiences in a work study program. The efforts of the Southern Alberta Logistics Society in finding local businesses to participate in the program were appreciated. Students were generally out in the workplace one afternoon each week, at which time they learned to apply theoretical knowledge gained in the classroom.

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The culminating celebration for Logistics students was an employee luncheon, where each student provided a brief summary of the logistical aspects of the organization or company for which they had worked over the past school year. Partner organizations and companies in Calgary that were instrumental to the success of this program included: the Calgary Board of Education, Hi-Tech Assembly Systems, Computing Devices Canada Ltd., Petro-Canada, Calgary Regional Health Authority, 7-Eleven Food Stores, and Arrow Auto Body Ltd.

Management and Marketing

Agribusiness Scholarship

Refer to the Agriculture section for information on how this article relates to the Management and Marketing strand.

Information on Entrepreneurship Useful for Teachers
(December 1999)

Refer to the Enterprise and Innovation section for information on how this article relates to the Management and Marketing strand.

Students at Lester B. Pearson Attend Global Visions Conference
(November 1998)

For more information, contact:
Susan de Wijk
Lester B. Pearson High School
Telephone: 403–280–6565
Fax: 403–777–7158
Email: sldewijk@cbe.ab.ca

Global Visions is a nonprofit organization dedicated to educating young Canadians about the global marketplace and providing them with the skills to succeed in international business in developed and developing economies. Six Management and Marketing students from Lester B. Pearson High School in Calgary attended the Global Visions Conference held at the University of Calgary on May 13–15, 1998. It was an intensive but enjoyable learning experience for all the students. Outcomes of this conference align with the Management and Marketing course, MAM3030: Business in the Global Marketplace.

Throughout the conference, local business people talked with students about their experiences in the global marketplace. Representatives from Nova and Renaissance Resources talked about global opportunities in the oil and gas sector. The President of the University of Calgary discussed the university's role as a major player in the global educational sector. The President of the Alberta Stock Exchange discussed global opportunities in the financial sector. Dr. Tom Keenan, past Team Canada Trade Mission Representative, discussed global opportunities in the technology sector. Representatives of the International Trade Centre talked to students about the diversity of doing business in the global marketplace.

Students worked in teams on a case study and presented their perspectives to a professor in the Faculty of Management. They were encouraged to start building a network of contacts in the business community. Students attending this conference were also eligible to submit an essay on a particular growth sector in Alberta and compete for a spot on the Junior Team Canada Trade Mission. In the summer of 1998, the Junior Team Canada Trade Mission went to Thailand and Singapore. Many thanks to Mr. Terry Clifford, Chairman, and Amy Giroux, Director of Global Visions, for planning and organizing this conference.

Junior Achievement Student Venture Program

Students in Management and Marketing at Lester B. Pearson High School in Calgary have won the Canadian Imperial Bank of Commerce (CIBC) Student Venture of the Year Award for the province of Alberta. Their venture, called Phat Foods, served up sno-cones and nachos to the student body. Students submitted an impressive entry, which included their corporate minute book, business plan and annual report. This is the fourth year in a row that Management and Marketing students at Lester B. Pearson High School have won this award.

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For more information about Junior Achievement Student Ventures, contact:
Cathy Millar
Manager, High School Programs
Junior Achievement of Southern Alberta
Telephone: 403–237–5252 ext. 24
Fax: 403–261–6988
Email: cathym@telusplanet.net

OR

Ron Funnell
President and CEO
Junior Achievement of Northern Alberta and Northwest Territories
Telephone: 780–428–1421
Fax: 780–428–1031

This award represents outstanding achievement in the Junior Achievement Student Venture Program, sponsored by CIBC across the province of Alberta. Students experience the risks and rewards of entrepreneurship, by starting, operating and liquidating a classroom-based business enterprise. As a class, students decide to produce a product or provide a service. They capitalize, operate and track the financial performance of their venture.

Junior Achievement CAPS Competition for Grade 9 Students

For more information about the Junior Achievement CAPS Competition, contact:
Program Manager
Middle School Programs
Junior Achievement of Southern Alberta
Telephone: 403–237–5252 ext. 23
Fax: 403–261–6988
Email: cmelnyk@juniorachievement.ab.ca

The CAPS Management Simulation is the highlight of the new and improved Junior Achievement Project Business in-school program for Grade 9 students. CAPS enables teams of students to manage their own baseball cap company. Competing against other companies, the students make decisions on price, production and inventory. The computer simulation provides the results and profit reports. The secret of success in this business simulation is to balance supply and demand.

Killer Kaps of R T Alderman School was the champion for the spring CAPS Junior High Business Challenge! For five weeks it managed a simulated baseball cap company generating record profits of $1813. This fall, Hot Hats from Midsun Junior High School and CAPS4EVA from John XXIII School tied for first place! Junior Achievement of Southern Alberta extends a special thanks to business volunteers Jim Powers (jPowers Outdoors), Maureen Floate (TD Canada Trust), and Steven Winkelmann and Wallee Collins (Bank of Montreal), and teachers Dan Reilly, Dianne Mortson and Tony Barile for their outstanding team coaching!

Future Entrepreneurs of Canada
(June 1997)

Refer to the Enterprise and Innovation section for information on how this article relates to the Management and Marketing strand.

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Mechanics

Auto Competitions Contribute to Mechanics Program at Barrhead Composite High School

For more information about this program, contact:
Daniel Sribney
Mechanics Teacher
Barrhead Composite High School
Telephone: 780–674–8521
Fax: 780–674–8542
Email: dsribney@phrd.ab.ca

Each year the Alberta Motor Association (AMA) and Ford of Canada sponsor a two-part competition for senior high school auto mechanic students. Mechanics students at Barrhead Composite High School spend a minimum of 100 hours each year preparing for this competition.

The first part of the competition consists of a 50-question written examination. The two highest scores from each participating school are then ranked with the scores obtained by students from other schools in the province. The top 10 schools are invited to participate in the second part of the competition. Here, each school team is given an identical Ford car with 16 defective parts. Students compete to get the car operating within given time parameters and using quality workmanship.

Students from Barrhead Composite High School have been very successful in these competitions, placing first in the 1999, 1998, 1997 and 1995 Provincials, and third in the 1996 Provincials. Barrhead students have also placed fourth in the 1999 Nationals and fifth in the 1997 Nationals. In recognition of their success in these competitions over the past few years, Ford Canada has donated a 3.8 litre engine and stand, diagnostic tools and equipment, and several vehicles for use in the school's Mechanics program.

CTS Mechanics teacher Daniel Sribney says, "the high school administration, school board and local businesses have provided tremendous support for our participation in these competitions. Our local Ford dealership continues to provide new vehicles for practice, technical information, tools and parts. Their service manager is 100% behind us, attending both the Provincials and the Nationals. These competitions allow me to stay current with the technology on new vehicles."

Participation in these competitions has had a positive impact on the Mechanics program at Barrhead Composite High School, increasing both student enrollment and pride in doing quality work. Several students from winning teams are apprenticing at the local Ford dealership. The competitions have enabled students to profile their talents and skills, thus establishing a very positive image for the Mechanics program.

Two Hills High School Offers a Range of CTS Courses in Industrial Education

Students at Two Hills High School are being offered an exciting selection of CTS courses in Construction Technologies, Communication Technology, Design Studies, Fabrication Studies and Mechanics. Through practical learning activities that occur outside of the traditional classroom setting, these courses enable students to explore a range of career options relevant to individual interests. Students find that the time spent in CTS shops goes by quickly, and they frequently make comments like, "Clean-up already! Where did the time go?"

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For more information about this program, contact:
Robert McKague
Mechanics Teacher
Two Hills High School
Telephone: 780–657–3383
Fax: 780–657–2227
Email: mckague@vegnet.com

The Mechanics program is offered to Grade 10 students and focuses on encouraging them to become better informed about the mechanical systems of a vehicle. Throughout the program, students are actively engaged in practical group work with a "foreman" appointed for each group. The Mechanics program has provided valuable learning experiences for students, both in terms of its practical component and its in-class theory component.

Students at Two Hills High School are also completing some exceptional woodworking and metal fabrication projects through courses in Construction Technologies and Fabrication Studies. These projects receive very positive comments from parents and are often displayed at parent–teacher interviews. Toward the end of each school year, St. Paul Education Regional Division No. 1 holds a CTS Showcase where student work from all the schools in the division is displayed for the public to view.

According to CTS teacher Robert McKague, "CTS is the answer to meeting the needs of Alberta youth in today's fast moving technological society. The competency-based courses offer students a chance to excel in strands of their choice. We've already seen the success of CTS here in Two Hills High School, with many of our graduates entering NAIT and other technical institutions throughout the province."

Articulation with the Apprenticeship Trades
(November 2000)

Refer to the CTS General section for information on how this article relates to the Mechanics strand.

Articulation Agreement: Buffalo Trail and Lakeland College
(February 1997)

For more information, contact:
Stephen MacKenzie
Associate Superintendent of Schools
Buffalo Trail Regional Division No. 28
Telephone: 780–842–6144
Fax: 780–842–3255
Email: stepmack@btrd.ab.ca

Buffalo Trail Regional Division No. 28 and Lakeland College have joined together to offer Mechanics courses throughout the region. A number of schools are participating in the program: Irma School, Mannville School, J.R. Robson School, E.H. Walter School, Wainwright High School and Edgerton Public School.

Students are enrolled in a 3-credit Mechanics course; the theory section is taught in the classroom, while the practical section is taught in the lab at Lakeland College. The days spent at Lakeland College are scheduled for Professional Development days, when the schools are closed, so students miss as few of their regular classes as possible.

Included are three 1-credit courses: MEC1020: Vehicle Service & Care, MEC2020: Vehicle Maintenance and MEC3010: Buying & Selling Vehicles.

Tourism Studies

Customer Service Excellence Program
(June 1999)

For more information, contact:
Kathy Dowding
ATEC
1600, 8215 – 112 Street
Edmonton, AB T6G 2C8
Canada
Telephone: 780–423–9225
Toll Free: 1–800–265–1283
Fax: 780–437–6655
Email: kathyd@atec.ca

The SERVICE BEST™ (formerly ALBERTA BEST™) Customer Service Excellence Program is an industry-recognized certificate program available to teachers to support the delivery of the Tourism Studies course, TOU1030: Quality Guest Service. Through video clips, group discussion and small group exercises, students will learn to:

- identify Alberta's tourism destination regions
- recognize and respond to the needs of customers
- assess factors that can "wow" customers
- persuade upset customers to become loyal customers
- recognize the importance of nonverbal communication
- appreciate the power of a positive attitude on the job.

In the eight years that SERVICE BEST™ has been available, it has trained more than 51 000 clients. As of March 1999, more than 160 teachers have been trained to deliver the program. The certificate may provide students with a significant hiring advantage when they have little or no work experience to offer an employer.

Schools wishing to offer SERVICE BEST™ to their students may do so by paying an annual licence fee. In addition to purchasing an annual school licence, teachers wishing to deliver the program must pay to attend a two-day inservice. Teachers receive the staff participant manual, leader's guide, overhead transparencies, videotapes, posters and numerous other resources to assist in delivering the program to their students.

Once a school has purchased its annual licence, and the teacher has attended the two-day inservice, student materials can be ordered from Alberta's Training for Excellence Corporation (ATEC) at a reduced cost. The cost includes a participant manual, SERVICE BEST™ certificate and pin.

Note: SERVICE BEST™ is a copyright program and cannot be taught to students without purchasing the original manuals for each student. This ensures that each student receives a certificate and pin, and that his or her name is registered in the ATEC database.

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Alberta's Training for Excellence Corporation (ATEC)
(June 1998)

For more information on ATEC:
Telephone: 780–423–9225
Toll Free: 1–800–265–1283
Fax: 780–437–6655
Email: info@atec.ca

To order resources, contact:
Aimee Caster
Marketing Coordinator
Telephone: 780–423–9225
Fax: 780–437–6655
Email: aimeec@atec.ca

Alberta's Training for Excellence Corporation (ATEC) and the Canadian Tourism Human Resource Council have made the following resources available to schools:

- *The Student's Travel Map: A Guide to Tourism Careers, Education and Training*—contains examples of occupations found within each sector of the tourism industry, as well as a comprehensive listing of tourism-related programs offered by post-secondary schools in Canada
- an interactive CD-ROM, *Tourism: A World of Opportunity*—parallels the guide and gives the user an opportunity to explore tourism careers in an interactive environment.

In September 1998, ATEC introduced a new national tourism career awareness program, "You Decide How Far To Go." Tourism industry professionals volunteer their time to conduct presentations on career opportunities in tourism.

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Wildlife

Internet Resource for Wildlife Courses
(January 1998)

This Web site is at http://www.edu.uleth.ca/CTS_wildlife/.

The University of Lethbridge, Center for the Investigation of Computer Communication Technology in Education (CICCTE), and Parks Canada have developed a Web site. The site is designed to be an online resource for teachers and students to link Wildlife courses with relevant information available through the Parks Canada Web site.

Teachers are encouraged to visit this site to explore its potential for use in delivering Wildlife courses. The site was designed and is maintained by students in the Faculty of Education at the University of Lethbridge. Your comments and questions regarding this site are encouraged in order to help make the site as user-friendly and useful as possible.

FEESA Offers Inservice Opportunities for Teachers
(February 1997)

For more information, contact:
FEESA, An Environmental Education Society
Telephone: 780–421–1497
Fax: 780–425–4506
Email: info@feesa.ab.ca

FEESA, An Environmental Education Society offers a number of professional development opportunities for teachers that focus attention on Alberta's environment and natural resources. These programs will be of particular interest to teachers implementing courses in Energy and Mines, Forestry and Wildlife.

Each FEESA program emphasizes a bias-balanced approach and strives to reflect the diversity of views and values held by Albertans with regard to environmental issues. The programs are offered through the joint efforts of FEESA and various government, industry and environmental organizations, and include EcoLabs, EcoTours and summer institutes.

BP Canada Produces Resource Package
(February 1997)

For more information about this resource package, contact:
BP Canada Energy Company
Telephone: 403–233–1425
Fax: 403–233–1476

BP Canada Energy Company, in partnership with the CTS Wildlife Assessment Panel and other educators, has developed a four-part video series, called *Nature's Legacy*, for use in CTS courses in Wildlife and Forestry. Videos in the series include:

- *A Southwestern Safari*
- *Alberta's Grasslands and Parklands*
- *Wildlife at Risk*
- *Prairie Wildlife: A Complex Web.*

Each 35-minute video is accompanied by a Teacher's Resource Guide that provides suggestions and activities for using the video in specific CTS courses.

Developed by BP Canada as part of its ongoing Partnership in Education program, the videos use Alberta-based photography and interviews to affirm the need for management of the environment.

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CAREER AND TECHNOLOGY STUDIES CREDIT COMPLETION STATISTICS

CTS CREDIT COMPLETIONS BY COURSE LEVEL

Level	1997–1998	1998–1999	1999–2000	% Change Over 2 years
Introductory	415 389	402 956	396 695	-4.5
Intermediate	178 253	211 221	217 480	22.0
Advanced	95 437	99 342	105 942	11.0
Total Credit Completions	**689 079**	**713 519**	**720 117**	4.5

CTS CREDIT COMPLETIONS BY STRAND

Strand	1997–1998	1998–1999	1999–2000	% Change Over 2 years
Information Processing	185 023	191 731	184 082	-1.0
Foods	84 636	87 013	88 210	4.0
Career Transitions	28 180	53 258	66 765	137.0
Communication Technology	45 792	54 182	58 360	27.0
Mechanics	48 860	48 887	45 730	-6.0
Construction Technologies	43 216	45 208	43 930	2.0
Cosmetology Studies	32 720	34 500	35 442	8.0
Community Health	29 311	32 498	34 335	17.0
Design Studies	25 982	30 640	30 400	17.0
Financial Management	37 536	32 334	28 818	-23.0
Legal Studies	21 212	21 058	21 595	2.0
Fabrication Studies	16 891	18 148	17 580	4.0
Fashion Studies	14 396	14 219	15 965	11.0
Tourism Studies	7 459	10 080	9 108	22.0
Wildlife	6 341	7 451	8 292	31.0
Electro-Technologies	6 739	7 113	7 207	7.0
Management and Marketing	9 665	8 271	6 961	-28.0
Energy and Mines	3 566	4 063	5 838	64.0
Enterprise and Innovation	5 409	6 514	5 201	-4.0
Forestry	3 679	2 924	3 265	-11.0
Agriculture	3 150	3 195	2 886	-8.0
Career and Technology Studies*	29 302	195	129	—
Logistics	14	37	18	29.0
Total Credit Completions	**689 079**	**713 519**	**720 117**	4.5

*This category includes CTS field-review courses and courses that were previously reported in generic "bundles" without strand details.

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CAREER AND TECHNOLOGY STUDIES
RELEASE OF INFORMATION FORM

Purpose: The details on this form are collected pursuant to **S.8** of the *Government Organization Act* and **S.32(c)** of the *Freedom of Information and Protection of Privacy Act* and will be used for the purposes of assisting Alberta Learning with the networking and sharing of information among those involved in Career and Technology Studies programs across Alberta.

The personal information could be circulated in both print form and electronically through the Internet. Should you have any questions regarding the collection or release of such information, please contact Jan Mills or Gary Bertrand, Program Managers, Career and Technology Studies: Jan Mills at 780–422–3275, fax 780–422–0576, or email Jan.Mills@gov.ab.ca; Gary Bertrand at 403–297–5022, fax 403–297–3842, or email Gary.Bertrand @gov.ab.ca. Final release of materials and information can be viewed at http://www.learning.gov.ab.ca.

Name: _____

Place of Business: _____

Telephone: _____ **Fax**: _____ **Email**: _____

CONSENT FORM
Freedom of Information and Protection of Privacy Act
Career and Technology Studies

☐ I hereby authorize Alberta Learning to include the personal information provided above and as it appears in the attached article in *Promising Practices in CTS*, a document that profiles innovative and effective practices in CTS taking place across the province.

☐ I hereby decline authorization for Alberta Learning to include the personal information provided above and as it appears in the attached article in *Promising Practices in CTS*, a document that profiles innovative and effective practices in CTS taking place across the province.

This authorization is valid only for the document noted above.

_____ _____
(Signature) (Date)

Thank you for your submission. Please return this form, with any article submitted, to:

Career and Technology Studies Unit
Learning and Teaching Resources Branch
Alberta Learning
Devonian Building
5th Floor East Tower
11160 Jasper Avenue
Edmonton, Alberta T5K 0L2
Canada

Telephone: 780–422–4872*
Fax: 780–422–0576

*To be connected toll free inside Alberta, dial 310–0000.

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